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This report is the product of a conference designed to define profitable areas of inquiry in the sociology of education with emphasis on the intersection of sociological inquiry and urgent problems in educational research. It is compiled from the stenotyped record of conference proceedings (five sessions at which position reports were presented as informal guides to general discussion) and from postconference reflections of the participants (23 social scientists, most of whom are prominent sociologists of education and representatives of allied disciplines). The author's synthesis is a reorganization of the conference material under seven general headings which participants identified as central priority issues: (1) methodology, (2) theory formation, (3) education and other social institutions, (4) the structure of the educational system, (5) education as a profession, (6) the ideology of educational practitioners, and (7) the special problem of educational opportunity. Twenty references are cited in the body of the report. Appended are (1) a 22-page outline synopsis of needed educational research, the first section dealing primarily with elementary and secondary education, the second devoted entirely to higher education, and (2) "The Comparative Study of the Determinants of Educational Opportunity," a background paper presented at the conference. (JS)

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FINAL REPORT
Project No. F-046
No. OE-4-10-170

DEFINING PROFITABLE AREAS FOR RESEARCH IN THE SOCIOLOGY OF EDUCATION

July 1968

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
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Final Report

Project No. F-046
Grant No. OE-4-10-170

Defining Profitable Areas for Research in the Sociology of Education

Marvin Bressler

Princeton University

Princeton, New Jersey

July 1968

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I. Summary

A two-and-one-half day conference to define profitable areas of inquiry in the sociology of education was held at the invitation of the Roger Williams Straus Council on Human Relations, Princeton University on May 8, 9, and 10 1964. The meetings in New York City were attended by 23 social scientists who were, for the most part, prominent sociologists of education and representatives of allied disciplines.

The agenda was organized according to a conceptual scheme which conceived of education as acting both as an independent and dependent variable and as being subject to analysis on both the micro and macro level. C. Arnold Anderson, Marvin Bressler, Neal Gross, Peter Rossi, William Sewell, and Martin Trow delivered informal position reports that included a substantive review of current knowledge, a theoretical exploration of the adequacy of existing schemes of classification and interpretation, and a methodological analysis bearing on such matters as the collection and sources of data, the selection of measurement devices, and the specification of an appropriate logic of inquiry. These introductory statements were followed by free discussion among the participants. The emphasis throughout was an informal exchange rather than adherence to rigid schema, systematic coverage, or bibliographical compilation. The more formal aspects of the conference are confined to a research memorandum submitted by Sam Sieber which summarized needed areas of research identified by a number of published inventories and a document prepared by Marvin Bressler on comparative inquiry on equality of opportunity.

This review of the conference, then, purports to be no more than an account of needed areas of clarification or innovation in the sociology of education as these were perceived by one or more participants. An assembly of academics and schoolmen seldom achieve consensus and this conference was no exception. The participants did however locate critical issues under the general headings of (1) methodology, (2) theory formation, (3) the relationship between education and other social institutions, (4) the structure of the educational system, (5) education as a profession, (6) the ideology of educational practitioners, and (7) the special problem of educational opportunity.

II. Introduction

During any regular school day about one-fifth of the population, or 35,000,000 children and adults in American society, are directly involved in formal school and college activities. Almost every person spends a significant portion of twelve years of his life within the formative environment of the educational institution, and a constantly increasing number devotes some sixteen years to formal educational training. These critical facts have commanded the attention of sociologists, although with varying emphasis and enthusiasm, through the past half-century.

Until the recent past, one surmises that sociological interest in education failed to keep pace in its expansion with the main body of sociology. Of the thousand or more articles or books from the past twenty-five years which fall in this area, perhaps less than 10 per cent can legitimately be classed as sound research studies, carried on within a well-defined sociological frame of reference.

An impressive change in the general situation has occurred since about 1950. It is accurate to say that there has been a rapid growth of interest in studies of the educational institution; and in recent years a greater number of both well-established and younger sociologists competent to carry on research programs of good quality have moved into this area. Standards of research have risen, and recognized areas of sociological theory pertaining to social class, small groups, occupational roles, and career mobility, to name but a few, are being brought to bear on the several aspects of the educational system.

In the past few years a section of the American Sociological Association has been formed on education and a new journal, *The Sociology of Education*, edited by Leila Sussman, and now by Martin Trow, has become an official publication of the Association. At the same time, the sociologist Charles Bidwell has assumed the editorship of *School and Society* which now emphasizes sociology and education.

These developments have occurred during a period when research donors and educators are willing, even enthusiastic, to support and use sociological research in education. The time has arrived to appraise the past and to suggest new guidelines for future sociological inquiry. This conference of experts was dedicated to this task.

III. Methods

The conference to define profitable areas was organized on the assumption that knowledgeable people sharing their wisdom could make significant contributions to the burgeoning field of the sociology of education. The participants are thus in a sense an integral part of the methodology of the present enterprise. They included:

C. Arnold Anderson
University of Chicago

Bernard Barber
Barnard College

Howard S. Becker
Stanford University

Charles E. Bidwell
University of Chicago

Marvin Bressler
Princeton University

John Holland
American College Testing Program

Eugene Litwak
University of Michigan

Wilbert Moore
Princeton University

Albert P. Reiss, Jr.
University of Michigan

Peter Rossi
University of Chicago

Orville G. Brim, Jr.
Russell Sage Foundation

Roald Campbell
University of Chicago

Burton R. Clark
University of California

Joshua Fishman
Center for Advanced Studies
in Behavioral Sciences

John Folger
Florida State University

Neal Gross
Harvard University

William Sewell
University of Wisconsin

Eleanor Bernert Sheldon
Russell Sage Foundation

Sam D. Seiber
Columbia University

Leila Sussmann
University of Massachusetts

Martin Trow
University of California

Melvin Tumin
Princeton University

Sloan Wayland
Columbia University

The conference consisted of five sessions each of which focussed on a designated topic, was preceded by a brief position report which served as an informal guide to the general discussion that followed. The discussion leaders were, so to speak, responsible for defining the agenda rather than for producing scholarly summaries. Nevertheless, each was requested to devote some attention, however briefly, to three major elements: (1) substantive review, (a) a survey of existing knowledge, (b) a critical review of recent influential studies, (c) the identification of gaps in the coverage of substantive areas; (2) theoretical exploration, (a) the construction of classificatory concepts, (b) the development of interpretative concepts, (c) the determination of appropriate levels of generalization; and (3) methodological analysis, (a) the collection and sources of data, (b) the selection of measurement devices including the problem of indexes and operational definitions, (c) the specification of an appropriate logic of inquiry.

The topics, chairmen, and persons who were responsible for the position reports in each session are as follows:

Friday morning, May 8

Chairman: Orville G. Brim, Jr., Russell Sage Foundation
Position Report: Marvin Bressler, Princeton University
Topic: "Defining Profitable Areas of Inquiry in the Sociology of Education: A Critical Evaluation of the Research Literature."

Friday afternoon, May 8

Chairman: Marvin Bressler
Position Report: C. Arnold Anderson, University of Chicago, and Martin Trow, University of California, Berkeley

Topic: "Education as an Independent Variable: Consequences for the Individual" (e.g. visible, income, occupation, mobility; internal, personal satisfaction, values, attitudes).

Saturday morning, May 9
Chairman: Orville G. Brim, Jr.
Position Report: Peter Rossi, University of Chicago
Topic: "Education as an Independent Variable: Consequences for the Social System" (e.g. the allocation of talent, the impact on social structure, the modification of social norms).

Saturday afternoon, May 9
Chairman: Marvin Bressler
Position Report: Neal Gross, Harvard University
Topic: "Education as a Dependent Variable: The School System, Educational Personnel" (e.g. relationship to the community, patterns of administration, recruitment and retention of teachers).

Sunday morning, May 10

Chairman: Orville G. Brim, Jr.
Position Report: William Sewell, University of Wisconsin
Topic: "Education as a Dependent Variable: The Student Population" (e.g. educational attainment, over- and under-achievement, clique behavior).

The proceedings of each session as recorded by a stenotypist revealed, as might be anticipated, that the conferees frequently wandered far afield from the agenda. This gain in spontaneity was sometimes achieved at the expense of intellectual tidiness. Three steps were taken to introduce over-all coherence:

(1) Marvin Bressler reorganized the structure of topics in the form in which they appear in ensuing sections;

(2) Sam Sieber submitted a memorandum identifying needed research as extracted from a member of research inventories;

(3) Marvin Bressler prepared a background paper on the comparative study of equality of opportunity in education; and

(4) participants were invited, and several responded, to submit post-conference reflections.

The present report does not identify the individual contributions of participants. In many instances a particular observation recorded here was the composite view of several conferees. On occasion, however, the editor has paraphrased or virtually reproduced actual conversations. But since these were often spontaneous reactions rather than the product of prior reflection and much time has passed, it seems more appropriate to present this report as a corporative effort.

IV. Results and Findings

A. The Current Status of the Sociology of Education

There was general agreement about the current state of knowledge about educational inputs and outputs:

1. The most frequently studied educational influence is "education," otherwise undefined, followed by years of schooling, curriculum characteristics of the teacher, classroom climate, and pedagogical methods.

2. Very few studies make systematic efforts to assess the relative contribution of extra-educational influences and characteristics of the educational system to an educational outcome. At such times as this methodological precaution is observed I.Q., social class, and sex account for the greater part of the observed variance in cognitive achievement and college attendance. The precise interplay between these variables remains unclear.

3. The relationship between educational characteristics and outcomes is ordinarily established either by fiat or by low-magnitude correlations. Most of the research suffers from the failure to state intervening variables, or to explain statistical associations in the context of a more comprehensive theory.

4. Few researches are based on representative samples of adequate size, are based on adequate theory, and are executed with sufficient rigor.

5. There is substantial, if sometimes ambiguous, evidence that education, perhaps even more than increased capital investment contributes to rising productivity, economic growth, and prosperity.

6. The best educational predictor of varied outcomes for individuals and groups is "years of school completed." There is a positive association between educational attainment and income, occupational status, marital stability, mental health, economic conservatism, voting behavior, commitment to libertarian values, racial tolerance, and lawful behavior. It is, however, difficult to know whether education is a direct influence or simply an index of social class.[1]

7. The typical finding in the area of classroom practices is "no significant differences." The existing literature fails to provide any clear-cut evidence of superiority for small versus large classes, homogeneous versus heterogeneous grouping, discussion versus lectures, live versus television presentation, nondirective versus teacher-centered classes, or independent versus directed learning. The relationships between (1) teacher personality and teacher effectiveness and (2) student personality and student learning are inconclusive.[2]

B. Methodology

This preceding survey of inputs, outputs and their interrelationships suggests that there is a wide disparity between what is believed about education and what is known. Most assertions about education -- published and otherwise -- are advanced without benefit of systematic empirical inquiry. The resultant propositions are frequently hidden in anecdotes or take the form of low-level generalizations. Accordingly, the first issue confronting the conference was to suggest ways and means of improving the methodology of sociological research in education. The discussion centered on seven research strategies: (1) experimental logic, (2) large samples and single cell analysis, (3) case histories, (4) interactive and sequential models, (5) longitudinal process models, (6) historical research, and (7) comparative analysis.

1. Experimental Logic

The purpose of social inquiry is to elevate plausible conjecture to the level of near certainty. A research design furthers this aim by furnishing procedures for establishing reliable and valid relationships and for reducing the number of alternative explanations of observed behavior. True experimental designs best satisfy these requirements but they can seldom be employed in an actual school setting. Accordingly, most studies of educational outcomes are based on less austere modes of observation and proof. Such common strategies as the intensive investigation of a single case, before-after comparisons, and statistical demonstrations of covariance are actually truncated experiments and to the extent that they deviate from the ideal model our confidence in the resultant findings are correspondingly diminished. The magnitude of the disparity between scientific knowledge and informed speculation in educational research can thus be determined only after we have identified the most general features of experimental reasoning.

Recent treatments by Guba,[3] Kish,[4] and Campbell and Stanley[5] provide excellent brief surveys of this complex field. There are, except for minor variations, only three "true" experimental designs: (1) pre-test, post-test control groups; (2) a posteriori control group; and (3) the four-group design. Subjects in all groups must be matched according to relevant characteristics or randomly assigned.

Pre-Test, Post-Test Control Group Design

	Time I	Experimental Variable	Time II	
Experimental Group	8th grade class a	plus civics course	knowledge of civics b'	difference between b and b' is attributable to experimental variable
	8th grade class a'	minus civics course	knowledge of civics b'	

2. A Posteriori Control Group Design

	Experimental Variable	
Experimental Group	+	b
Control Group	-	b'

3. Four-Group Design

	Time I		Time II
Experimental Group	a	+	b
Control Group	a'	-	b'
Control Group		+	c
Control Group		-	c'

The first of these is the classic experiment; the second achieves the requisite control through random assignment; and the third, which is a combination of the first two, makes it possible to test both for treatment and pretest effects. All assume that the difference in performance, if any, between the experimental and control groups at Time II may be attributed to the experimental stimulus.

The conclusions yielded by these designs are trustworthy only under very special conditions, i.e. when they meet the criteria of internal (adequate control of the experimental situation) and external validity (generalizability to a larger universe). In clarifying these concepts it will be helpful to distinguish four classes of variables:

(1) experimental variables (e.g. civics instruction; leadership; etc.);

(2) confounding variables (e.g. I.Q., personality dimensions, etc. which provide rival hypotheses and explanations);

(3) control variables (matching of groups according to relevant characteristics); and

(4) randomized variables (group composition determined by random assignment).

As Guba points out:

> In a completely unequivocal experiment, all confounding variables would be controlled, leaving nothing to be randomized; this halcyon state is, of course, impossible to achieve in practice...the aim of statistics [is] to be the development of methods for estimating the effects of randomized variables, and providing ways for comparing the measured effects of information variables to the estimated effect of randomized variables. Such comparisons, known as tests of significance, are the ways in which we assess the reality or validity of the information which the experiment affords.[6]

Satisfactory internal validity can be threatened by failure to control any of the following major sources of rival hypotheses:

(1) history (the effect of events or experiences that occur simultaneously with the experiment);

(2) maturation (the effects of processes normally associated with time);

(3) testing (the distorting effects of developing examination skills);

(4) instrumentation (the effect of changes in measurement devices);

(5) repression (the statistical effect of extreme groups to move toward the mean of the distribution);

(6) differential selection (the effect of comparing non-comparable groups); and

(7) subject mortality (the effect of differential losses from the groups).

(8) distortions introduced by experimentor (the infection of subjects by contagious bias.

External validity may be compromised by the manner in which groups are chosen. At some point both groups and individuals within them must be randomly selected. Thus as Guba notes schools which agree to cooperate in an experiment may differ in crucial respects from those who decline. This requirement is well understood even if it is difficult to achieve in practice. An equally important desideratum which is often not recognized is the necessity to assign individuals randomly especially in ex post facto experimental and quasi-experimental designs which comprise so much of contemporary research. Thus, for example, the differential earnings of elementary, high school, and college graduates is commonly attributed to length of schooling. This interpretation is sustained by comparing current income of persons who completed specified educational levels. Quite obviously there is a contaminating self-selective factor in differential educational attainment that influences orientations to worldly success and economic achievement. The presumed connection between education and income might be substantially altered if we had observed an original representative sample of five-year-old children, one-third of whom were, by random assignment, permitted to complete only elementary school, one-third to finish high school, and one-third to graduate from college. An investigator who declines to wait sixteen years for the sake of experimental purity can scarcely be chided for his dilettantism but neither has he confirmed what has become a durable item of folk wisdom.

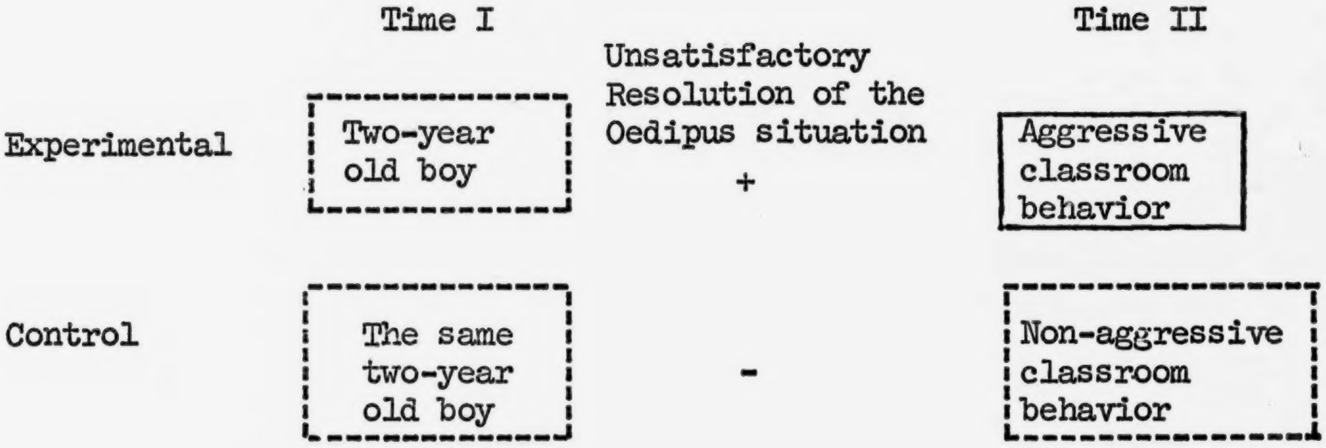
Guba also identifies several conditions of the experiment itself which may influence its generalizability. These include among others the reactive or interactive effect of testing, experimental arrangements, and the distortion introduced by multiple treatments.

Most behavior scientists have been either unwilling or unable to adhere to the severe disciplines involved in the method and logic of experimental inquity. Campbell and Stanley have identified a series of quasi-experimental designs that have proved considerably more popular: time-series, equivalent time samples, equivalent materials design, the non-equivalent control group, counter-balanced designs, the separate-sample pre-test - post-test, multiple time series, recurrent institutional cycle, and regression-discontinuity designs. Despite the wealth of options available to investigators one gains the impression from perusing the educational literature that most studies have employed what Campbell and Stanley have called pre-experimental designs: the one-shot case study, the one-group pre-test - post-test design, and the static group comparison.

The case study method consists of studying an individual or group only once following the introduction of an event which is presumed to act as an agent of change. It may be diagrammed as follows:

+ (a film on race relations)	a measure of racial understanding

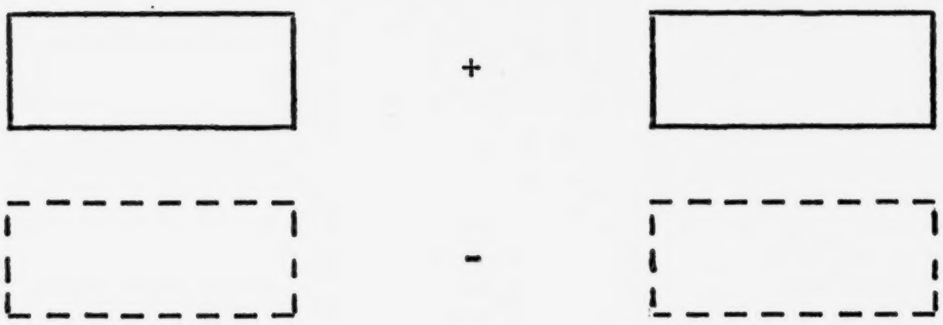
A particularly weak version of this pre-experiment is the psychoanalytically oriented diagnosis in vogue among guidance counselors. For example, a child comes to the attention of the therapist because he is "excessively aggressive" in his classroom responses. In the course of the interview the counselor concludes that the pupil suffers from "an unresolved Oedipus complex" and attributes his school behavior to this early childhood experience. We may diagram this process in the manner of Stouffer somewhat as follows:[7]



	Time I		Time II
		Unsatisfactory Resolution of the Oedipus situation	
Experimental	Two-year old boy	+	Aggressive classroom behavior
Control	The same two-year old boy	-	Non-aggressive classroom behavior

Although the reasoning underlying this illustration is experimental the only available hard data is the behavior observed at time II and described in the second cell. The remaining information in this paradigm, including the experimental variable is established by fiat on the basis of theoretical inference.

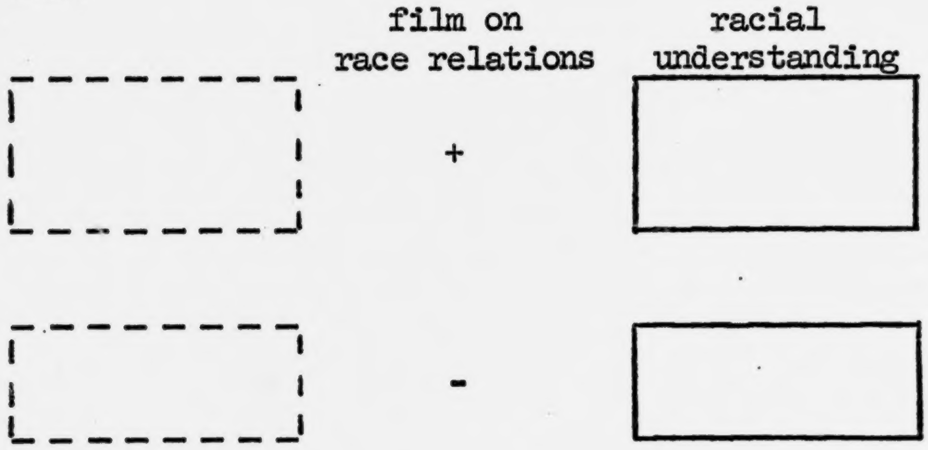
The one group pre-test design is somewhat more adequate inasmuch as half of the cells required for a complete experimental demonstration contain empirical data as distinguished from uncontrolled speculation. This pseudo-experimental structure has the following form:



The failings of this design become immediately apparent by referring to any study in which the experience of an actual, rather than a fictitious, control group has cast doubt on an initially plausible relationship. The Cambridge-Somerville Youth Study is an instructive illustration of this genre.[8] A group of 325 boys judged by their teachers to be "delinquent risks" in these two Massachusetts communities received, for a period of five years, the full benefits of the standard repertoire of social science rehabilitation techniques. These included psychological counseling, religious exhortation, and community-sponsored activity. Three years after the conclusion of the project, a follow-up study indicated that neither the seriousness nor the frequency of the offenses committed by the boys in the intervening period were as high as had originally been anticipated.

If matters had stopped at this point, the project's personnel would have had occasion for justified self-congratulation. However, unluckily for their equanimity, but fortunately for knowledge, they had taken the precaution of recording the progress of a control group of similar size and characteristics. Powers and Witmer, who directed the experiment, were unable to discover any appreciable differences in the subsequent behavior of the treatment and control groups. A later study by Joan and William McCord tracing the experiences of both groups up to 1956 yielded substantially similar results and the authors conceded that "using the standard of 'official' criminal behavior, we much conclude that the Cambridge-Somerville Youth Study was largely a failure."[9]

The static group comparison is a form of correlational analysis which compares the effect of the presence or absence of an experimental variable on two groups at a single point in time. It may be diagrammed as follows:



This design is extensively used in educational research despite the fact that the absence of pre-tests, control groups, matching or randomization permits any number of alternative hypotheses for an observed effect.

Our discussion thus far has attempted to define certain general properties of adequate and unsatisfactory research designs. We have the impression, which will be documented in greater detail later in this essay, that the latter are much more prevalent in educational research. A particularly serious dereliction is the failure to control for those confounding variables that are external to the actual educational process. Accordingly, it has seldom been possible to discover what proportion of the variance in an observed outcome is attributable to non-school resources and constraints: The task of disentangling the effect of any particular school practice from other sources of influence is truly formidable. The following is a partial list of variables both outside and with the educational system that singly or in interaction govern school performance.

External Resources and Constraints

A. Social System

1. Non-Human Resources and Constraints
    a. natural resources

    - b. relative allocation of economic resources to production, investment, consumption
    - c. allocation to education as proportion of investments
    - d. allocation to education as proportion of consumer allocations

  2. Human Resources
     - a. literacy rate
     - b. levels of educational attainment
     - c. persons in high-level occupations

  3. Non-Economic Institutions
     - a. political organization
     - b. family system
     - c. religious system, etc.

  4. Social Values: Extent of Commitment to
     - a. activity
     - b. work
     - c. efficiency
     - d. equality
     - e. progress
     - f. material comfort
     - g. freedom
     - h. nationalism
     - i. science

B. Individual Characteristics of Student

  1. Native Capacity
     - a. I.Q., etc.

  2. Demographic Characteristics
     - a. age
     - b. sex
     - c. race
     - d. ethnicity
     - e. occupation
     - f. urban rural
     - g. religion, etc.

  3. Dimensions of Personality
     - a. maturity
     - b. motivation
     - c. self-image, etc.

  4. Individual Values
     - a. internalization of social values
     - b. commitment to learning process
     - c. commitment to achievement ethic and deferred gratification pattern, etc.

C. Educational System

1. Non-Human Resources

    a. educational plant

        physical facilities

        instructional materials (library, textbooks, etc.)

        a. number
        b. level
        c. type
        d. location
        e. quality
        f. use
        g. value

    b. current expenditures

        physical facilities

        instructional materials

        a. per unit population
        b. per pupil
        c. per instructional unit

2. Human Resources

    a. administration

    b. professional personnel

    c. students

        a. number
        b. quality
        c. composition
        d. distribution
        e. morale

3. Role Relationships

    a. educational system - extra-educational system
    b. administrators - professionals
    c. administrators - students
    d. professionals - students

        a. hierarchical - egalitarian
        b. traditional - rational
        c. flexible - rigid
        d. centralized - diffuse
        e. authoritarian - democratic

4. Instructional System

    a. curriculum - academic...vocational
    b. quality - high...low
    c. instructional emphasis - passive...active
    d. methods of control - punitive...permissive

5. Educational Ideology

    a. gifted...average
    b. past...future
    c. general...vocational
    d. cultural transmission...social change
    e. rigor...whole person

It is obvious, then, that even if we adopt the most economical of all models, a three-dimensional scheme consisting of (1) social or individual resources and contraint, (2) characteristics of the educational system, and (3) outcomes, a legitimate claim for the independent influence of the second of these can be made only in very few instances.

For example, let us imagine that we are comparing two groups that are sometimes similar and sometimes dissimilar according to three dichotomized dimensions: native intelligence (high I.Q. - low I.Q.), conditions of instruction (big classes - small classes), and academic achievement (good grades - poor grades). Under these circumstances, 64 distinctive patterns will emerge, half permitting causal inferences and half inconclusive. Education will be responsible for the outcome in only one-fourth of the possible instances as follows:

When outcomes differ:

	External Resources or Constraints	Characteristics of Educational System	Outcomes
Group	I.Q. (Same)	Quality of Instruction (Different)	Grades (Different)
1	High	Big classes	Good
2	High	Small classes	Poor
1	High	Big	Poor
2	High	Small	Good
1	High	Small	Good
2	High	Big	Poor
1	High	Small	Poor
2	High	Big	Good
1	Low	Big	Good
2	Low	Small	Poor
1	Low	Big	Poor
2	Low	Small	Good
1	Low	Small	Good
2	Low	Big	Poor
1	Low	Small	Poor
2	Low	Big	Good

When outcomes are the same:

Group	External Resources or Constraints I.Q. (Different)	Characteristics of Educational System Quality of Instruction (Same)	Outcomes Grades (Same)
1	High	Big	Good
2	Low	Big	Good
1	Low	Big	Good
2	High	Big	Good
1	High	Big	Poor
2	Low	Big	Poor
1	Low	Big	Poor
2	High	Big	Poor
1	High	Small	Good
2	Low	Small	Good
1	Low	Small	Good
2	High	Small	Good
1	High	Small	Poor
2	Low	Small	Poor
1	Low	Small	Poor
2	High	Small	Poor

Note that only in those sixteen hypothetical illustrations may an educational practice be identified as a source of an outcome. This is so because potentially contravening explanations "exterior" to the school system have been eliminated in every instance. Where I.Q. is held constant grades vary with conditions of instruction although not always in the same direction. Furthermore this relationship persists for the entire I.Q. range. Even when I.Q. differs similar conditions of instruction are sufficiently "strong" to "overcome" the variation in "native intelligence" although once again not in the manner anticipated. Such anomalous findings (e.g. if empirical research should actually reveal that low I.Q. students in large classes are actually superior in academic achievement to their counterparts in small classes) can exert pressure for revision of educational theory and practice but only if we are reasonably sure that the source of the effect is located within the educational system.

The set of contingencies which we have presented never exist as "pure types," can be expressed more elegantly in statistical form, and together do little more than affirm that a constant cannot explain a variable and vice versa. They have been introduced here because they vividly demonstrate that even when we employ an excessively simplistic model based on weak experimental design, with only three dichotomized dimensions, where each parameter is assumed to be coextensive with the sphere it represents (i.e. size of class represents in progressively more general fashion "classroom practice," "conditions of instruction"... educational system), and freedom from measurement error is assumed -- even within these generous limits education is a sovereign cause only in a restricted number of highly circumscribed cases.

An elaboration of the model would reveal that an equal number of outcomes are attributable to external resources and constraints and that half of all the potential relationships are ambiguous. A few illustrations will suffice.

1. External Resources and Constraints as Determinants
    a. I.Q. varies, class size constant, grades differ
    b. I.Q. constant, class size varies, grades same

2. Ambiguous Determinants
    c. I.Q. varies, class size varies, grades same
    d. I.Q. constant, class size constant, grades differ
    e. I.Q. constant, class size constant, grades same
    f. I.Q. varies, class size varies, grades differ

The preceding discussion on the methodological requirements for establishing the connection between a characteristic of the educational system and an observed outcome has emphasized the structure of proof rather than the techniques of investigation. The failure to abide by experimental logic is probably the single most important explanation for the problematic character of most claims made on behalf of education. But neglect of the canons of evidence is only one source of ambiguity in educational research. The findings yielded by the most impeccably conceived design may be nullified by insufficient attention to the conventional hazards of social research: poorly formulated definitions and concepts, unreliable methods of data collection, inadequate sampling, and statistical fallacies. Any retreat from methodological purity increases the degree of freedom in observation and interpretation. As we proceed from the best empirical studies to insightful theoretical discourse, to commencement oratory, to folk wisdom, the claims for education as a powerful independent variable become progressively more extravagant. One consequence of increasingly sophisticated research which makes allowance for the constraints imposed on education by a diverse population and a recalcitrant social system would be to diminish the belief in the capacity of the school to influence social and individual behavior.

At the same time it does not seem plausible that anyone could be exposed to so many hours and years of formal education and emerge from the experience unscathed. Yet the fact remains that actual experiments or their common statistical substitute, multiple regression analysis, usually reveal that sex, socioeconomic status, and I.Q. account for most of the observed variance in a wide range of dependent variables. This seeming anomaly can perhaps be reconciled by making wider use of a range of research strategies which though less austere than the logic of the experiment or the multiple "R" may, nevertheless, for some purposes turn out to be more revealing.

2. Large Samples and Single Cell Analysis

The multiple "R" may tend to underestimate socially important, as distinguished from statistically significant findings. If, however, we employed sufficiently large samples it would then be possible to examine deviant cells which furnished strategic insights. Under these conditions, we could for example, concentrate on the impact of the contextual variable "Negro, working-class, high I.Q., boy, in a predominantly white middle-class school." Any one of those putative independent variables might "wash out" in multiple regression analysis, and their contribution to the explained variance might be small, but it is precisely in the comparative analysis of such combinations that we might discover the independent effects of additional dimensions beyond sex, I.Q., and socioeconomic status.

3. Case Histories

Some participants in the conference argued that the much maligned case history can be used to confirm as well as generate propositions. The unit of case analysis would presumably vary depending on the kind of generalization we wished to produce. Thus, for some purposes, we might deal with the individual school while for others the classroom or the entire school system might be implicated in our investigation. The effort in these studies would be to discover the generic problems faced by the organization in question and how the various categories of participants in the organization act as they move to deal with those problems. In a school system we might be concerned with problems of recruitment of personnel, allocation of resources, development of a program, etc. In the classroom, the problems might be such matters as how to get a day's work done, how to maintain control over the students, etc. This is, of course, conventional sociology and is in this respect no different from alternative methods of social exploration.

The real issue at stake is whether one can ever arrive at generalizations by means of case studies. Many sociologists would relegate such material to the status of interesting anecdotes. However, some believe that a series of case studies addressed to the same question and carried on within the same frame of reference could develop a truly cumulative body of knowledge. The procedure would go roughly as follows: First, a study of a given institution isolates a series of problems and collective responses and becomes in a sense a baseline for future work. The next several studies ought properly to be carried on in places where it seems likely that the organization will be different in some feature of the ecological position of the organization, of the kind of personnel recruited to various positions and so forth, so that we might predict a substantial variation in the character of problems faced and responses made. Some such procedure is now reasonably standard in the study of prisons; in a somewhat less successful way, largely because scholars have not been operating within the same frame of reference, it has gone on in the study of mental hospitals. There are some perplexing problems with respect to how one persuades social scientists to pay enough attention to one another's work to undertake such a cumulative enterprise. This is, however, a matter no different in principle than any other phase of the organization of scientific knowledge.

4. Interactive and Sequential Models

Similarly interaction and sequential models might also serve as substitutes for the more orthodox forms of statistical analysis. Sociologists of education have been too often derelict in trying to show the influence that "A" exerts over "B" without also inquiring to what extent "B's" behavior serves as feedback on "A". The moment the one-way correlation model is raised to this next highest level of sophistication one is almost automatically moved to include a time dimension; there is simply no way to observe interactive effects without some degree of temporal patience. The advantage of a time orientation is that it directs us to processes rather than to static description.

5. Longitudinal Process Models

Interactive models can, of course, be extended in time and employ elaborate quantitative procedures. One can imagine constructing a model of stochastic processes whereby the decisions made by individuals to go in one direction or another in the educational system modifies the probability of their advancing to the next highest step. A study in progress at the University of Chicago, for example, compares a number of technical occupations according to the probability that persons who arrive at one stage will go on to a higher level, say to the M.A. or to the Ph.D. Physicians, mathematicians, chemists, theologians differ in this respect and such differential results inform us both about the occupational and the educational systems.

Large-scale longitudinal research suffers from two disabilities, one of which can be solved while the other is very probably beyond solution. Such studies are so infrequent partially because no single investigator wishes to spend ten, fifteen, or twenty years to trace a group's progress from elementary school to college and beyond. The conditions of academic advancement and sheer boredom militate against any such exclusive devotion to a really long-range enterprise. It appears clear that longitudinal research must be conducted in permanent organizations so that it is not vulnerable to the actual or intellectual mortality of scholars who are eager to get more immediate results.

The second problem is more perplexing. There is no very good way in a cohort study to sort out the time effect from the cohort effect. Since World War II the world has undergone several convulsions and it is not clear how to disentangle these imperious historical events from individual or social chronology. History is, so to speak, not subject to control procedures. We are reduced, therefore, to a Gedanken-experiment in which we imagine away all sorts of confused and complex contingencies. The solution of the perplexities of cohort analysis should engage the attention of the most skilled methodologists in the sociology of education.

6. Historical Research

The fact that it is notoriously difficult to account for historical circumstance is not sufficient reason to neglect longitudinal studies or for that matter classic historical scholarship. Social histories of education are extraordinarily difficult to come by and existing works use the techniques and the conceptual categories of humanistic scholarship. We do not now know the answers to very fundamental questions about previous educational eras. The net result is that we tend to make comparisons against a baseline of some presumably idyllic period when problems were less troublesome and outcomes allegedly more gratifying. We suspect that a really good history of American education might reveal that schools were never as successful as populists proclaimed, that values were never quite as secure as those who yearn for the past imagine, or that teachers were as skilled, colorful, or inspiring as folklore would have us believe. Funding agencies which insist on so-called "hard" data and disqualify historical research on these grounds needlessly impoverish contemporary perspectives. The field of education awaits first monograph which has the distinction of Goldhamer and Marshall's comparative analysis of mental health rates in the mid-nineteenth and the twentieth centuries.[10]

7. Comparative Analysis

Sociologists merit similar criticism for investing so little of their resources in "latitudinal" studies, i.e. comparative education. This interest has expanded in recent years for three major reasons: (1) sensitivity to the international demands now made upon educators for personnel to man indigenous systems, for consultation, and for quasi-diplomatic purposes; (2) the assumption that the experience of other societies affords insights into our own; and (3) that comparative studies provide a timely and feasible way of injecting more social science into educational curricula.

A crucial problem in comparative analysis of educational systems, as elsewhere, is what dependent variable to study. It must be "intrinsically" and/or theoretically important and it must be sufficiently alike in measurement and in meaning so that cross-national comparisons are possible. It is thoroughly feasible, for example, to develop some scale by which it is possible to measure the absorption of knowledge by children in a variety of societies, but even here we shall be reduced to examining those disciplines which like mathematics rely on shared symbol systems and substantive content. Similarly, the independent variable must be selected with great care. One would be tempted, for example, to compare two ex-colonial nations, one under previous French dominance and the other with a history of British control, on the grounds that national differences of this character would certainly intrude on the operations of the educational system. In point of fact, in concrete instances such as the case of Ghana and the Ivory Coast, the precise nature of previous servitude will not discriminate between educational systems. On the other hand, such variables as the presence or absence of an external examination system, the emphasis on elite as distinguished from mass education, national harmony versus tribal rivalry, might be very significant indeed for educational outcomes.

C. Theory Formation

The sociology of education like sociology proper is deficient in both "grand" and "middle range" theory. To be sure a number of conventional "functions" are attributed to education but these lack sufficient analytical power to codify existing knowledge or guide research. Robin Williams summarizes the current level of functional analysis in education as follows:

> In our society, the schools are expected: (1) to train the organism (to develop skills, physical fitness, and "disciplines" -- such as sitting quietly for hours each day); (2) to transmit the received culture to the endless "daily invasion of young barbarians"; (3) to equip the individual, at least minimally, to perform his roles as worker and citizen; (4) to provide a setting for personality development and general social maturation; (5) to keep youths out of the labor market and off the streets. Among these broad rubrics of objectives, it happens that the parents and taxpayers of America have at one time or another demanded that the schools undertake almost every imaginable kind of instruction, indoctrination, guidance, surveillance, and custodial care.[11]

The field has scarcely passed beyond generalizations of this order. Accordingly, the conference devoted considerable attention to the problems of theory formation. The discussion may be conveniently summarized under six major headings: (1) the scope and limits of educational sovereignty; (2) the sociological extensions of educational goals and outcomes; (3) the appropriate level of sociological generalizations; (4) the creation of research metaphors; (5) the construction of educational typologies; and (6) the development of operational definitions.

1. The Scope and Limits of Educational Sovereignty

We may discern three types of constraints that inhibit the influence of the school: (1) innate restrictions on human malleability, (2) intrinsic boundaries of formal education as part of the socialization process, (3) temporal limits on the persistence of educational effects.

a. Human malleability

The conception of man that best sustains faith in education views him as malleable in that he has few constitutionally or socially derived characteristics that are not amenable to change. Any theory of learning, motivation, or perception which assigns primacy to intra-organismic processes that are minimally responsive to any external environment, also affirms by extension, that the school can exert limited sovereignty over human behavior.

The "instinct" and "fitness" theories of an older social biology as represented by William McDougall and Herbert Spencer would thus cast serious doubts on the potential efficacy of any educational system. But even now when traditional doctrines of biological determinism are thoroughly discredited, newer versions of the role of the genetic component in behavior suggest that in some areas education operates within narrowly circumscribed limits.

For example, nearly all sectors of articulate American opinion are committed to the idea of developing a meritocracy which features a class system that permits free social movement and offers equal rewards for equal talent. According to this model, if free universal compulsory education furnishes high quality education for all children, and intelligence is equally distributed among all strata, then intergenerational mobility should be "perfect," i.e. each class should contribute the identical proportion of sons to any given occupation. Any deviation from "perfect mobility" presumably reflects inequality of opportunity including educational opportunity.

But suppose as Bruce Eckland contends that "social classes are breeding populations," i.e. "aggregates of individuals who are statistically distinct from other aggregates with respect to some gene frequencies as a result of assortative mating." This assertion is in fact supported by modest correlations -- in the order of .03 to .06 -- in the measured intelligence of spouses. The significance of these considerations lies in the substantial relationship between test intelligence and various indices of socio-economic status and in the contention by some that the genetic component in intelligence accounts for perhaps as high as 70 per cent of the inter-individual variance. We may anticipate that the within-class variance in intelligence will contract and the between-class variance will expand. It would thus follow that it will "become increasingly unlikely that the same proportions of children from each class have equal capacities to take advantage of their opportunities. The tendency of elites to replace themselves (intergenerationally) is somewhat insured by the nature of any system in which intelligence is a dynamic factor affecting status placement." This analysis implies that the inheritance of class membership is determined by genetic as well as social processes and that the school, even under the best of circumstances, can make a more modest contribution to the achievement of perfect mobility that is sometimes supposed.[12]

There are, of course, standard counter arguments to offset this line of reasoning. Every responsible genetic theory now concedes that biological explanations have much residual variability unexplained. Since we cannot know the full potential of any child until we give him the maximum chance to develop his capacities, it is empirically, and perhaps morally, questionable to proceed on the basis of a theory of limits. Nevertheless, we must be open to the possibility that even if educational research were flawless and schools superb we might be unable to confirm some educational claims for the sufficient reason that genetic factors decree that they cannot be achieved.

b. Limits of formal education

Many theories in the Freudian tradition, Adler and Rank included, assume the basic personality and moral development is almost exclusively the result of family interaction and is substantially fixed by the time a child enters kindergarten. The school is thus able to effect relatively trivial alterations in crucial sectors of a student's life. However, neo-Freudians such as Horney, Fromm, Eriksen and Sullivan as well as academic psychologies such as behaviorism and field theory do in varying degrees acknowledge the importance of late childhood and adult socialization and of environmental influences outside the family. The length of the "formative years" and the institutional locus of personality and values thus remains moot. Accordingly, there is no secure *a priori* basis for estimating the potential limits of the school's jurisdiction over the non-cognitive domain.

Recently, a number of investigators, notably Bernstein, Bloom, and Deutsch, have studied the relationship between preschool experiences and intellectual ability. Collectively they have furnished impressive evidence that early childhood deprivation may seriously impede the subsequent capacity of children to develop cognitive skills.[13] These allegations which were the scientific basis for the establishment of Headstart and other preschool programs thus assert for the intellectual realm what orthodox psychoanalysis has claimed for psychology. The situation is however somewhat different. While cognitive possibilities once lost are difficult to retrieve, it may be possible to meet this dilemma by the simple expedient of drastically lowering the school entrance age.

c. Temporal limits on the persistence of educational effects

Almost all of educational practice is based on the assumption that the effects of schooling persist beyond the student's departure from the classroom. The plain fact is that there is, as yet, very little available evidence that bears on the proposition that "education is preparation for life." For the most part we can only guess (1) which effects of schooling become manifest at some other stage of schooling or the life cycle; (2) which effects persist relatively intact for a lifetime; (3) which effects become dissipated as a result of further maturation and experience.

Many teachers console themselves, perhaps legitimately, that schools are retroactively influential in the later lives of their students. A seemingly irrelevant item of information first acquired in school may become salient only when the child becomes a man. The phenomenon of the "late bloomer" in college lends some credence to the view that prior education may provide a base such that additional marginal increments of motivation or experience yield a desirable delayed reaction.

The available literature on higher education suggests that at least some of the effects of the total educational process are virtually complete by the end of the high school years. College students do acquire additional information and more sophisticated cognitive skills but there is little reason to believe that personality is significantly altered by collegiate experience. There is "in general change in the direction of greater liberalism and sophistication in political, social, and religious outlook" but the magnitude of the change is slight.[14]

Unfortunately, there does not now exist a single study which compares college students and their noncollege-age peers. There is, moreover, no reliable information on so basic a matter as the retention of knowledge by dropouts, high school graduates, or college alumni at given points after they leave school. It seems reasonable that many of the effects of schooling recede in time as memory fades, their relevance declines, and new experiences accumulate. All of these considerations combine to suggest that research which focuses exclusively on educational outcomes that are observable during the school years may sometimes seriously underestimate and sometimes exaggerate the impact of the school.

It seems evident that if education, like politics is the art of the possible we cannot ascertain the "success" or "failure" of school programs without some theoretical conception of what could have been achieved. Likewise, we require some measure of the potential contribution of sociology to the total variance to be explained as a condition for determining the adequacy of research findings. Education has now become virtually a synonym for individual and social saluation. One of the primary tasks of behavior theory is to discover if, in fact, the school can sustain the burden.

2. The Sociological Extensions of Goals and Outcomes

It is difficult to interpret the sociological meaning of goals and outcomes in the absence of descriptive and normative theories which define (1) the social units for which they are relevant and (2) the social roles to which they refer.[15]

a. Social units

Any educational outcome -- years of school completed, cognitive achievement, attitude change, personality transformation -- may have significance for the entire society, its sub-sectors, or the individual.

Viewed from a societal perspective education produces numerous benefits and dislocations. It is thus, for example, responsible for much of American economic growth. Edward F. Denison for example, estimates that between 1929 and 1957 the rising education of the labor force in the United States was responsible for 21 per cent of the growth in real national income as compared to 14 per cent attributable to increased physical investment in plant and equipment.[16]

T.W. Schultz concludes that the educational factor may account for as high as 70 per cent of "the otherwise unexplained increase in earnings per laborer."[17] As a key element in the economic transformation of society education is of course partially responsible for the multiple perplexities of an industrial civilization: war, technological change, business cycles, urban concentration, migration, demographic heterogeneity, group conflict, moral ambiguity, and personal malaise. The most remarkable feature of American society has been the astonishing stability of its institutions in the face of the provocations that have been visited upon twentieth-century man. Education that is a source of social tensions in also one of the devices by which they can be managed. It has performed the latent function of dissipating revolutionary energy by furnishing an arena for the resolution of group conflicts and by opening careers to talent.[18]

Education does not, however, exert a uniform influence on a society. There are at least four sub-groups that have a special stake in educational outcomes. These include (1) persons responsible for setting policy and prescribing means (e.g. school boards, superintendents, principals); (2) agents responsible for implementing the goals -- means complexes (e.g. guidance personnel, teachers); (3) clients (students at all ages); and (4) the direct kin of students. Each of these has separate and possibly contravening interests. The need to pay heed to classic problems of intergroup conflict and society and the individual is as imperative in educational research as elsewhere.

b. Roles: specificity and compatibility

Educational outcomes may be relevant for particular adult roles which fall in the domains of work, play, love, friendship, and community participation while others may be applicable to all social roles. Vocational training, for example, is specifically intended to enhance competencies in the economic sphere while the inculcation of character traits such as honesty and tolerance are presumably desirable in all life situations. There is currently no fully developed sociological theory which specifies the nature and range of role-linked educational outcomes or the extent to which they are compatible with one another.

Ambiguities of reference such as those cited in previous paragraphs are common in the sociological literature and it is difficult, therefore, to develop rational social policies. An achievement in one area (e.g. developing the competitive ethic required for occupational success) may have negative consequences for another area (e.g. developing the attitudes of trust which makes friendship possible). Unless we are successful in developing a comparative sociological theory that specifies both the eufunctional and dysfunctional consequences of school outcomes we shall be poorly prepared to choose among alternative courses of action in educational policy.

3. The Appropriate Level of Sociological Generalization

Much of the gloom about the putative effects of education may derive from the failure to observe the relationships of independent and dependent variables at the same level of theoretical generality. The disappointment at the failure of institutional characteristics such as the nature of the curriculum, the intellectual "climate," the size of classes, etc., to influence psychological outcomes such as "emotional maturity" may simply reflect theoretical naivete. After all, psychiatrists who are engaged in a direct one-to-one relationship with individual patients report a discouragingly high incidence of failure. It may well be that research in the sociology of education will be most profitable when inputs and outputs are both on the same theoretical level, that is to say, when efforts are made to establish the relationship between gross institutional measures and gross social consequences.

The concentration of research effort on the macro level would have the felicitous effect of directing our attention to the uniform, constant, and durable properties of educational systems rather than their marginal and peripheral features. For example, American investigators have been greatly preoccupied with detecting the consequences of "authoritarian" versus "democratic" leadership. The results of these inquiries have been disappointing partially because normative perscriptions defining class-room atmosphere severely restrict the amount of permissible variation. It is precisely these common features of classroom practice that have been ignored and therefore discounted as sources of educational outcomes.

Nevertheless one could make a plausible case for the proposition that the school, almost any school, creates attitudes favorable to the "needs" of a modernized, industrial society. Every teacher demands of his pupil constant adjustment and change; some of these are small while others represent discontinuous shifts to more austere skill levels. The organization by grades provides a miniature mobility model with provisions for success as well as failure. Moreover, the school necessarily requires problem-solving behavior. In Parsonian terms classroom norms ordinarily emphasize the achievement, specificity, universalistic, and affectively neutral poles of the pattern variables. It is difficult to imagine a more effective introduction to the spirit of the modern bureaucracy in a complex organizational structure. These speculations will not arise if we are totally preoccupied with minor variations in microcosmic effects.

4. The Creation of Research Metaphors

One pressing need in defining potentially productive input-output relationships is to develop new research metaphors. The educational system has sometimes been conceived of as an economic firm which is organized to develop products of given characteristics and marketability; it has been regarded by some thinkers as an extended model of the family with all the egalitarian and compassionate implications implied by that institution. By contrast, some have thought of education as an ideal-typical stratified society exhibiting all the exploitative features of hierarchical structure and unequal rewards and privileges. The economic, family, and stratification models are useful and have yielded significant theoretical and empirical extensions, but additional images would enrich the field. Two such, which have not been sufficiently exploited, is the conception of the educational system as (1) beleaguered fortress and (2) mechanism of social control.

a. The beleaguered fortress

Every school system is confronted by community pressures, local economy drives, expectation of appropriate teacher behavior on the part of parents, manifestoes on course content, constant scrutiny by newspapers, regulations issued by state and federal instrumentalities, high level scoldings by liberal arts colleges, and calls for higher virtues from schools of education -- these are all external threats to the autonomy and security of the institution. Internally, there is characteristically considerable teacher turnover so that new instructors have to be socialized to the norms of institutions. There is present an unwilling and unruly clientele, whose goals are frequently at variance with the goals of the school. There is ordinarily conflict between teachers and administrators over professional prerogatives and methods of resolving differences of opinion.

An important and neglected research focus is how does this system survive when it is under siege in this fashion from within and without? What are the coping mechansism that it employs? Does the administration demand more discipline of the staff when there are threats from the community? Is bureaucratization one of the consequences? What are the cooling-out mechanisms for dealing with the public? What are the vehicles of information that the superintendents, teachers, and students employed to find out what their relevant others are thinking? New metaphors, then, yield new questions and new questions, perhaps, new answers.

b. Education as a control mechanism

The subject of social control in education has been almost totally avoided. Yet the school has two manifest functions: to socialize people and to control them. Almost all research concerning students has focused on the former, or rather on the learning aspects of socialization, for reasons that probably have their roots in the ideology of permissive-democratic instruction. A starting point for research in social control can be found in Waller's simple observation that "the teacher-pupil relationship is a form of institutionalized dominance and subordination."[19] The virtue of this standpoint is not its substantive plausibility but rather its capacity to generate research. For example, Waller writes "each of these hostile parties stands in the way of the other; insofar as the aims of either are realized, it is at sacrifice of the aims of the other." Or, another example, taken from Waller:

> Whatever the rules that the teacher lays down, the tendency of the pupils is to empty them of meaning. By mechanised conformity,

> by "laughing off" the teacher, or hating him out of all existence as a person, by taking refuge in self-initiating activities that are always just beyond the teacher's reach, students attempt to neutralize teacher control.[20]

If so, then much of the verbal conformity that passes for learning may be traceable to features of the teacher-pupil relationship. Also, this suggests a source of peer-group culture in the school which may be independent of adolescent culture in general. Moreover, problems of social control are not confined only to the classroom. In some sense the whole school is organized to restrain, channel, prod, and punish and reward the student. It would not be surprising if much more time and effort were devoted to this function that to straight instruction and this would be true for the entire school population, not only the deviant child. For most adults all adolescents are deviant.

In sum, the study of social control, now grievously neglected, introduces images and expectations of adolescents held by educators, classroom interaction, the ways in which the administration of schools is geared to control adolescents, and the effect of various administrative arrangements on students' attitudes and motivations. Social composition of the student body and of the staff would have to be considered as critical intervening variables. And finally, studies of social control would be obliged to investigate the extent to which sanctions originated by the school are internalized by the students. After all, the school is the principal mechanism which provides children with the fact of authority outside of the family.

5. The Construction of Educational Typologies

Educational research has been notably weak in developing adequate typologies which further distinguish gross concepts. The terms "teachers," "students," "principals," "administrators," and so forth have often been employed as if they have unitary meanings without distinguishing them according to differential role performance and perceptions. In point of fact, if we should examine any of these roles with greater sensitivity, we would be stimulated to create more refined typologies which would assist us to organize research. For example, we find at least four different kinds of principals: (1) those who conceive their role as a chief teacher, (2) those who really see themselves as administrators running a taut ship, (3) those who are essentially custodians, and (4) those who are really public relations men. The development of such primitive typologies in every area is the first step to more sophisticated and differentiated research findings.

6. Operational Definitions

A typology, however, is a model rather than a depiction of empirical reality. It is a task that is preliminary to measurement and observation. Definition, then, should not consist primarily of metaphysical disputes about concepts but rather operational representations, nonverbal indicators, and measures for subtle outcomes. Much debate, for example, has been squandered on the question of "leadership." We would do better to specify certain concrete functions and arbitrarily designate these as the tasks of a "leader." We might refer to the allocation of resources, the selection of personnel, the responsibility for defining curricular content, ambassadorial relations with the community, and social-emotional mediation. It is not critical whether these functions exhaust the concept of "leadership" but rather whether they make it possible to develop measures that are useful for educational research.

In this connection we should note that insufficient emphasis has been placed on objective indices and too much attention has been paid to verbal indicators of intention or achievement. This may be one reason for the failure to detect any significant effects arising out of differential characteristics of the educational system. For example, in dealing with the impact of the school on noncognitive outcomes we confront the acquired sophistication of students in offering approved verbal responses in the areas of aspirations, values, and attitudes. The acquisition of a new vocabulary trows into question the meaning and significance of their replies. If, instead of developing instruments for the measurement of, let us say, "tolerance" or "radicalism," more effort were devoted to studying the propensity of students to behave in a particular fashion -- e.g. their membership in campus organizations, their subsequent voting behavior -- and relate these to features of their education, we might discover higher correlations than we now suspect.

But even in the verbal realm there is a general need for placing statements in broader context. Thus, an SAT score of 600 earned by a student at the Bronx High School of Sciences has a very different meaning from the same score achieved by a Negro child in a Harlem high school. These are not the same outcomes, and they tell us quite different facts about the student and about education. Similarly avowed expressions of liberalism by alumni of Reed College and Slippery Gulch are not fully intelligible if the analysis is confined to the manifest content of their testimony. A response has a different level of credibility when it merely reflects the prevailing intellectual climate or conflicts with the dominant ethos. The specification of concepts and their indicators which could be employed in contextual analysis is a much needed theoretical task.

D. Education and Other Social Institutions

The school carries on ambassadorial relationships with other sectors of society. For reasons of clear disciplinary demarcation sociologists of education have too often neglected the transactions between the school and other social institutions. These include the (1) polity, (2) family, (3) economy, (4) religion, and (5) extra-school educational instrumentalities.

1. Politics

Among the numerous political issues impinging on education the conferees assigned special importance to the problems of (1) power and the schools, and (2) centralized vs. local control.

a. Power and the schools

The school exists by sufferance of the political process. From the school board election in isolated hamlets, to lobbying in the legislature, to exerting influence on the federal executive branch the school is engaged in power relationships. It would be important to discover what are the pressure points, successful symbols, and strategies that produce adequate resources for the operation of the educational system. An important, but neglected, area has been the politics of grantsmanship, the mechanism by which an originally bright idea becomes translated into cold cash.

b. Centralized vs. local control

There is, of course, a long tradition of localism in the United States and a strong feeling that educational solutions generated in Washington are apt to be both inflexible and carry with them the threats of thought control. At the same, this concentration on local prerogatives is in conflict with political trends which have occurred throughout the last century and in accelerated fashion since the New Deal. "Welfare liberals" have often identified localism as a force which inhibits change, as a mechanism for perpetuating existing inequalities between affluent and nonaffluent areas, and as a source of intellectual parochialism. Now, however, with the demand of the black community for control over their own schools, the entire matter of local government has emerged in a new context. It may be that the traditional association of virtue with federalism and villainy with the neighborhood needs re-evaluation. At the same time, the federal government has been demonstrably more inventive than most smaller political instrumentalities, thus contradicting the "conservative" assumption that federalism is invariably associated with "rigidity" Since many of the theories about centralism and localism are now being reconsidered by both left and right, this is obviously an area that requires further exploration.

2. The Family

The interrelationship between the school and the family has never been clearly specified in sociological research. It is clear that the family is an important input in predicting educational outcome, but more subtle questions of spheres of institutional control remain ambiguous. As an example, the most fundamental of all problems, who shall exercise final jurisdiction in the event of a conflict between school and parents on educational policy, is still a shadowy area which has received little analytical attention. When the issue has been considered at all, it has usually been disposed of by asserting that the school and the family should "cooperate" in the education of the child. This formulation avoids all the hard questions. What should, and what actually happens if parents in a community insist that their children be taught according to a particular reading method? Is this issue normally decided by presumably professionally competent people? Do parents defer, or do they regard teachers as agents to whom they temporarily turn over their children from 9 to 3 each weekday without delegating the ultimate responsibility for decision-making in the educational sphere? Research might reveal that such conflicts cannot be resolved philosophically or, more importantly, in the real world. At the same time, it is conceivable that the parent-teacher conflict is not a zero-sum game. Neither loses when the child learns. The problem for research and for policy is to discover the particular spheres in which each properly can exercise sovereignty, and to consider the circumstances under which this recognition would be freely rather than grudgingly extended.

3. The Economy

Education intersects with the economy at a number of obvious points. There has grown up an enormous commercial enterprise which publishes textbooks, study aids, readymade projects, and television presentations whose impact on the formal structure is very poorly understood. Since education has become big business, there is the pervasive danger that economic, rather than pedagogic considerations, may determine what occurs in the classroom. The textbook market is, for example, responsive to the same pressures as all other media. It furnishes what is the current demand without exhibiting excessive concern for improved products. Since such items represent capital equipment for schools with pre-existent assumptions about their duration built into the budget, an inferior book, once adopted, can corrupt children for a decade or more.

But there is a more critical intersection between the classroom and the economy. The school is now the major device for allocating people into the occupational structure. It sometimes performs this function without self-consciousness and indeed frequently against its consent. Humanistically oriented schoolmen, for example, contend that the school should remain insulated from economic pressures. The vocational educational track in most schools is often a refuge for the least talented and now occupies the lowest level prestige of all educational curricula.

Despite these efforts to remain "pure," given levels of education still are used as the primary basis of eligibility for the overwhelming number of occupations in our society. It is a moot question whether there is any functional relationship between years of school completed and the actual skills required to hold a job. Both the government and employers chide the schools for the absence of fit between trained personnel and manpower projections and also for the actual inability of graduates to perform the tasks for which they have been allegedly prepared.

If we think of the school as a sorting mechanism, our tendency is to view the demand side as a static set of boxes which are to be filled by the school system. If there is anything we know about the occupational structure of industrialized countries, it is that is is far from static. Indeed, one characteristic of the lack of fit between education and the occupational structure, particularly in the United States, is that if the schools had done "a better job," in preparing for occupational demand, they actually would have been less effective. There is nothing less practical than a practical education, particularly if there is about a decade lag between the curriculum and the current state of the labor market.

We may be witnessing an even more rapid shift of career lines so that the qualifications for entrance will have little to do with the qualifications for performance, except a talent for continuous learning. Vocational skill may provide some kind of a crude sorting device for allocating people to their initial spots in the occupational structure, but it may have little to do with their performance for the remainder of their occupational lives.

All of this suggests that occupational skill should perhaps be conceptualized in terms of certain general cognitive achievements, personality attributes (e.g. absence of rigidities, capacity for intellectual growth, ability to sustain frustration) and only secondarily as trained capacities. The relative merits of the orthodox manpower projection approach and the "general education" orientation in achieving a goodness of fit between school and job requirements is another obvious area for research exploration.

All such discussion assumes that the school should make it possible to allocate people to some job. However, some economists now believe that in the automated future it will be unreasonable to assume full employment even in principle. Thus, unemployment which is now usually considered either a moral delinquency or a consequence of a temporary aberration in the economic system, will then be regarded as a normal and unavoidable fate for some sectors of the population. From a sociological point of view this brings into play the issue of whether there are functional alternatives for work as a source of self-imagery and self-realization. Beyond this we will be confronted with perplexing problems of the level of support to extent to the unemployed if, by any definition, they are not by some Puritan calculus morally culpable. These prospects are not tomorrow's, but an alert sociology of education might do well to anticipate the impact of these contingencies on the school program.

4. Religion

Religion now intrudes on the public schools primarily as a competitor for scarce economic resources. As a consequence, one could argue that the problem of federal aid to parochial schools is now being debated on the most trivial level. The issue is not who should pay for parochial schools. If pluralistic education turns out to be the desirable way to organize the American system of instruction, then of course everyone should pay for it, not only particular religious groups. If, on the other hand, religious education is detrimental to American society, then the willingness of denominational groups to bear most of the financial burden of their schools is not sufficient reason to permit them to exist. It is critical, then, to identify the actual consequences of religious schools for individual and social welfare. Only a handful of studies devoted to these issues now exist and their number should be considerably expanded.

5. Extra-school educational instrumentalities

Indeed, The entire area of education outside of the public school system is unoccupied territory. Yet we are now witnessing a revolutionary transfer of educational work from formal institutions to a quasi-formal structure which is in some sense as remarkable as the historical shift from family to school as the chief instrument for transmission of the culture. The military, for example, has probably trained more technicians than the entire public school educational system. Beyond this we have programs of continuing education, company training programs, vocational retraining, Great Books club, and a variety of other extra-public school structures. The content of such efforts, the extent to which they are integrated, and their implications for public school reform deserve the most serious attention.

E. The Structure of the Educational System

1. Patterns of Administrative Leadership

There are at least five dimensions defining both function and self-image which shape the way that the administrator performs his role: (1) leader versus follower, (2) generalist versus specialist, (3) conserver versus innovator, (4) person versus role occupant, and (5) authoritarian versus democratic.

a. Leader vs. follower

Many deans, superintendents, principals, and others who hold administrative responsibility regard it as their primary function to give aggressive leadership to the units for which they have responsibility. They believe they should and actually do initiate policy, create a mood, and place their distinctive stamp upon the entire organization. According to another pattern of administration, largely but not exclusively confined to universities, there is at least a cultural demand and one to which many in administrators acquiesce, that the nominal leader regard himself as a servant of the faculty who executes their orders and directives.

b. Generalist vs. specialists

More than a few administrators require of themselves that they shall be superior in every phase of the enterprise which they lead. The common pattern in many colleges of rewarding the most eminent scholar by appointing him departmental chairman is one manifestation of this tendency. In some sense this is the star who is made playing coach of a basketball team and is able to instruct by example as well as exhortation. On the other hand, there is now emerging an administrative style which is endemic to administrative organizations of all sorts in which the administrator is a generalizing coordinator of specialists, each of whom is more expert than he in his own field. This is typical of the modern structure of American business, universities, hospitals, elementary and secondary education.

c. Conservers vs. innovators

Some administrators conceive of their function to preside over an organization which has as its highest duty to remain intact. They prefer the relatively secure present as aginst the yet uncharted and ominous future. They are, in short, in Mertonian terms "ritualists." At the other extreme are administrators who regard change as a positive virtue even if its substantive purpose is moot. In its most vulgar and irresponsible form this attitude may be expressed as "you cannot make an omelet without breaking some eggs." The second of these polarities is, of course, by far less frequent.

d. Person vs. role occupant

A few administrators take pride in leading in orthodox and unconventional ways. This may take so innocent a form as encouraging subordinates to refer to them by first name or more dramatically by cultivating erratic and ideosyncratic postures. Other administrators, quite self-consciously, play out all of the requirements of the role. Their behavior is as nearly possible synchronized to a conception which they have previously identified with the position they occupy. The fact that some studies show that administrators grow to resemble each other even in personality characteristics suggests that the role conception is dominant.

e. Authoritarian vs. democratic

Some administrators try to lead by using authoritarian methods of ordering and forbidding. At a more benign level they are courteous and pleasant but leave no question as to the ultimate sources of authority. An opposite pattern involves extensive consultation, the careful specification of procedures, the diffusion of power, and the willingness to countenance conflict. Such persons also regard themselves as leaders rather than followers, but more responsive to those they lead.

We do not now know the statistical distribution of choice with regard to these polarities. Nor, in truth, has it been established that administrative style has any discernible impact upon educational outcomes. However, it is plausible to suppose that a man who regards himself essentially as an administrative "generalist" may be less concerned with the quality of academic instruction than a person who regards himself as an academic who is performing a necessary housekeeping task. These attitudes could filter down to the teachers and from them to their pupils with possible consequences for learning. In any case, we shall not know whether patterns of leadership have any observable consequence until we have studied them. As of now, except for some pioneer efforts by Neal Gross and others[21], the role of the administrator and kindred matters (there is, for example, not even a single study on colleagueship in educational institutions) is a sadly neglected area.

2. Teachers

Charters has well summarized the state of our knowledge about the characteristics of teachers.[22] Numerous ambiguities remain. Among the most perplexing of these is the relationship between scores on standardized tests and the actual capacity of teachers to perform their assigned functions. It is normally assumed that future teachers are those with the least aptitude for education of all persons attending college and by common consent this chronic situation is unlikely to change materially in the immediate future. Education competes in the marketplace with other professions that can offer more lucrative rewards. Nor is it altogether clear that a sudden influx of students recruited from the "gifted" end of the ability spectrum would be in the national interest. By what existing calculus can we determine the optimum allocation of brains and talent? Shall we try to increase the proportion of first-rate teachers at the expense of physics, mathematics, medicine, engineering, or social work -- all professions that join in the chant "we need more, we need better"?

However, all of the preceding discussion has been based on the assumption that the average teacher is, in fact, incapable of performing his task. But there is no demonstrable evidence that SAT scores predict with any degree of fidelity how a teacher will behave in the classroom and what will be his ultimate effect on students. To establish this relationship we would need many more systematic protocols of behavior than are currently available to us and a better account of educational consequences. Among other things we would require interactive models in the description of classroom behavior. There are literally no studies which tell us what characteristics of helper and helped when taken in combination produce a desired effect. Ordinarily we ask what are the characteristics that make for a good teacher and what are the characteristics that make for receptivity to learning without ever joining these two lines of inquiry. How well for example does a high I.Q. Boston Brahmin function in a Harlem school as opposed to a teacher with more modest intellectual pretensions who is a resident of the same neighborhood? The proper question for research becomes, then, not how can we improve teachers or how can we recruit more of the higher I.Q. levels, but rather do teachers need improvement? If so, in what ways and for what purposes and on what levels?

F. Education as a Profession

Evidence abounds that teachers wish to be considered professionals. It is a term that is mentioned reverently wherever they congregate in public or in private. The model to which they apparently aspire is medicine and they wish to achieve the same degree of autonomy, prestige, and, hopefully, income as doctors. Two areas related to this aspiration have been poorly researched: (1) the reconciliation of professionalization and unionization and (2) the conflict between institutional and what might be described as "cosmic" loyalty.

1. Professionalization and Unionization

"Union" and "profession" have been sometimes considered antithetical concepts. The first connotes wages and hours, similar salary scales, profane as opposed to sacred objectives, and collective rather than private action. The second suggests guild, priesthood, self-abnegation, and personal and occupational autonomy. Teachers' unions, however, now contend that in the process of trying to achieve their economic objectives they also create the conditions under which genuine professional activity is possible. Moreover, they assert that their own self-interests coincide with the interests of their client. If, for example, classes are smaller, if teachers were less fatigued, if they had greater protection against community pressures, then they could perform their function with greater skill and fidelity. In short, some teachers' organizations assert that unionization is the most effective route toward full professionalization. Such claims are worthy of the most serious research scrutiny.

2. Institutional vs. Cosmic Loyalty

One departure from professionalism which is nearly universal is the loyalty which educational personnel extend to their own institutions as opposed to their discipline or to larger political units such as city, state, or nation. For example, let us suppose that twenty Ph.D.'s are produced by graduate schools in sociology each year and that each wishes to obtain an academic position. Let us further assume twenty vacancies. Under these circumstances every university will try within the limits of its own resources to hire what it perceives as the best of them, in terms of its own needs. If we disregard the comparatively rare occasion when there is an obvious reason why a particular man should join a specific institution either because of personal resources or specialized programs that exist there, there does not seem *a priori* to be any very compelling motive why, from the standpoint of the profession, he should ultimately teach in institution "A" or institution "B." Suppose the best candidate eventually ends up at Harvard and the worst at Slippery Gulch. Why has gained and who has lost? Harvard students then become the beneficiaries of superior instruction and Slippery Gulch students are taught by less able men, but the effect on their profession as such is quite the same as if the distribution of fledgling scholars had been the reverse. It is conceivable that there exists at Harvard a critical mass of "superior" colleagues and students that affect the quality of their professors' research and scholarship, but this needs to be demonstrated rather than assumed. It is equally plausible that, at least from the standpoint of educational outcome, a rational distribution of manpower might better be achieved through randomization. Meanwhile, it is striking that academic recruitment of "professionals" slavishly follows the competitive assumptions of the economic marketplace without even the saving grace of a social theory comparable to classical economics, which would argue that institutional interests and broader loyalties coincide.

G. The Ideology of Educational Practitioners

One has the impression that ideologies are so prominent in education that it is almost impossible for many educational practitioners to distinguish between factual and normative statements about students and the schools. Quite possibly this derives from the high valuation which is placed on educating the young in our society. Hence, there is a certain aura of godliness about their profession as though they were emissaries of some divine purpose.

To be sure, there is variation among such groups as professors of education in teachers' colleges, educational scientists, and the practitioners. And there is some value cleavage between public school teachers and administrators. Do the value orientations of educators -- assuming that we have identified them -- affect what goes on in the classroom? And, even if it does affect the school program, does it affect what children learn and what they internalize in their own value systems? The critics of education who listen to the pronouncements of educational spokesmen conclude that it does, but proof in one direction or another would be welcome. Similarly, it would be important to know whether the dominant ideology affects the selection of certain types of personalities as educators or does it shape them after they have been exposed to the socialization experiences of the school of education.

H. The Special Problem of Educational Opportunity

The sociology of education is concerned with three major measurements of educational opportunity: (1) educational attainment, the extent to which the student has acquired the knowledge, skills, and attitudes which are the minimum requirements of passing from one grade to another as measured by performance on standardized tests, grades, degrees, etc.; (2) educational recruitment and retention, the proportion of any given cohort the system retains up to any given point in education; (3) educational selection, the extent to which and how the school system operates to provide equal access to more advanced education to those with the requisite abilities. All of these involve the policy and research issues of the extent to which children of equal ability have equal access to public educational facilities regardless of their sex, place of residence, race, religion, ethnic background or socio-economic status.

Some facts are reasonably well established. Some families and groups, i.e. those with the most material resources and with the attitudes most conducive to education are able to convert these into opportunities for their young which exceed the proportion of groups not similarly advantaged. However, a substantial proportion of "poor" risks survive while "good" ones fail, suggesting that factors within the school even now overcome input predictions. Schools that were genuinely dedicated to the proposition that all children merited their equal concern, which found motivational substitutes for marks, which were organized on a nongraded basis, which individuated instruction, which eliminated racial, economic, and religious segregation might do much to narrow the gap between the contemporary situation and the ideal of providing equal quality education for all. It is difficult to imagine a more challenging and rewarding area for educational policy and research.

VI. Conclusions and Recommendations

This report has identified a number of areas in the sociology of education which seem "profitable" to one or more participants in a conference of leading sociologists and other scholars. The obvious grand conclusion of this report is that both sociology and education would benefit from the expansion of knowledge of those topics referred to in the major headings of this document: (1) methodology (2) theory formation, (3) the relationship between education and other social institutions, (4) the structure of the educational system, (5) education as a profession, (6) the ideology of educational practitioners, and (7) the special problem of educational opportunity. Ideally, we would not merely specify problems which require solutions but also make some effort to rank them in a scale of priority. This task could be undertaken on the basis of any one of four criteria: (1) the needs of public policy, (2) theoretical relevance, (3) response to research inventories, and (4) the predilections of individual investigators.

Some sociologists are excessively zealous in protecting their craft from the real world of decision and struggle. In point of fact, one of the best ways to become involved in important theoretical and methodological problems is to regard sociology as a tool for dealing with urgent practical issues. For example, an investigator interested in a community decision as to where to build a new high school will, in the process of studying this apparently mundane issue, necessarily learn much about the broader community. A series of such studies would not only assist policymakers but have the additional consequence of enriching general sociology and the sociology of education.

It is difficult to think, therefore, of research problems in the area of education which could be selected exclusively for their purely theoretical relevance. (It is, of course, possible to distinguish those inquiries which use the school as a convenient locus for research from those that make a genuine contribution to the sociology of education. For example, social psychologists interested in certain general properties of human transaction might conduct research in schools purely for convenience.) Any investigator who is interested in some characteristics of the school as a specific empirical instance of a broader theoretical problem will perforce deal with pragmatic as well as abstract problems.

The report of this conference has, therefore, referred to those problems where the interests of sociological scholarship and "useful" knowledge intersect. Nevertheless we must strike a note of caution on the potential utility of our suggestions. There is little evidence that the sometimes ambitious research inventories which have been published in recent years have done much to affect the priorities in social research. They are undoubtedly useful in identifying gaps in knowledge and in suggesting where we might profitably expend research effort. It is unlikely, however, that any substantial number of scholars will consent to undertake their investigations out of response to a sense of urgency expressed by persons reviewing the state of the field. The really creative investigator is moved by his own internal rhythms and by a relatively private version of what needs to be done and in what order. It is probably true, therefore, that despite the continuous discussion about the need for establishing priorities, that educational researchers will continue to define their problems according to their own individual predilections rather than by any self-conscious process of rational choice according to a hierarchy of theoretical or social imperatives.

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Appendix I

Synopsis of Needed Educational Research

As a supplement to a joint essay by Paul F. Lazarsfeld and Sam D. Sieber on "Organizational Problems of Educational Research" the junior author prepared a compilation of profitable areas of inquiry in education. Relevant sections of this document were used as a working paper at the conference and are reproduced here with minor modifications. The first section deals primarily with elementary and secondary education, while the second is entirely devoted to higher education.

A. Social research

1. Aims of education

a. The distribution of aims in the community

"A major neglected area of research has been the simple description of differences in aims for education, and the relation of these to one's age, occupation, religion, and other socioeconomic variables.[1]

b. The distribution of aims in the school

What social and psychological factors differentiate teachers who hold conflicting views regarding basic school objectives? ... Do incumbents of positions at different levels in educational organizations (school-board members, school administrators, teachers, and students) tend to define the objectives of the school differently?[2]

c. Consequences of pursuing certain aims

(1) On the teacher

What are the consequences of differential educational values on the role behavior of teachers?[3]

(2) On the student

A...field of investigation is suggested by the renewed debate on the question: Should education emphasize adjustment or academic achievement? ... The proponents of academic education accuse (those who emphasize adjustment) of emphasizing adjustment so heavily that they produce only average and mediocre students. In turn, the proponents of adjustment education accuse the supporters of academic education of adhering so tightly to standards and molds that they allow their students no room to develop individuality ...

Here, I suggest, is a fertile field for research. What are the unique abilities of the students? How does the individual perceive himself? What are his aspirations, interests, and value systems? To what extent do our methods of teaching and persuading and punishing influence his self-confidence? To what extent do the preconceived expectations of teachers, parents, and community compel him to conform? to betray his individuality? to compromise his true person? to be less than his best in order to be like the group? or to efface himself because he cannot be what someone wants him to be?[4]

(3) On recruitment and advancement of educators and students

Is it true that educational personnel are recruited, and probably promoted, in schools and colleges to the extent that their goals for education are the same as those of their superiors who control hiring and advancement? And what of the students?[5]

(4) On the pursuit of other aims

A systematic description of the aims of education would undoubtedly reveal that many of them conflict with each other, and hence some are not truly achievable. The question arises of how educational personnel resolve this conflict in allocating their efforts to achievement of one or another aim, and of how such conflict influences morale and career satisfaction.[6]

What impact does disagreement among staff members on educational objectives have on the functioning of school systems and on the gratification that incumbents derive from their positions?[7]

d. Consequences of inability to measure success in achievement of aims

What are the effects upon an institution of pursuing ends when it cannot know if, or when, it achieves them? How does one evaluate the effectiveness of different means in this situation. How is the performance of personnel to be evaluated? Is it true ...that general, unappraisable ends serve the function of protecting educators...from public control since the public has no way of determining if a good job is being done? On the other hand, it is true that certain functions of education are measurable...the institution becomes increasingly oriented toward achievement of measurable outcomes, to the detriment of the more general, and usually more highly desired, goals.[8]

Recognition of the vagueness of the formal educational objective of the school also leads us to question the types of relationship pattern between administrators and teachers and among teachers that tend to produce similar views on educational goals. It also suggests the need for inquiries concerning the impact on the functioning of the schools of differential views on school objectives held by school personnel, on the one hand, and key formal and informal leaders of the community, on the other.[9]

2. Allocation of material resources

   a. Influence of community values and social structure

   ...the research problem leads directly to studies of such matters as the values held by school board members, by state boards of regents, and the like; to the process through which persons representing one or another set of interests are placed in such positions of public trust; to the manner in which conflicting interests within such groups are resolved. These and related questions await attention.[10]

   b. Criteria for allocation within the schools

   With respect to allocation of resources within a single educational organization, apparently no research in the sociological tradition has been made. A number of problems command one's interest here. One in particular would seem to lie squarely within the sociological study of occupation, namely, the basis of differences in salaries and rates of occupational advancement ...Education at the lower levels is increasingly characterized by the use of quality criteria, namely, amount of training, longevity, and sex, in contrast to performance criteria such as success in teaching or ratings of competence by one's peers... Why should this be true...while a business firm stresses the opposite type of criteria? Are performance criteria employed in society only where merit is easily accessible?[11]

   c. Effects of allocative criteria on personnel

   What might the effects be on other aspects of the institution of the lack of stress on performance? Is it not likely that persons who stress self-sufficiency, competition, and individual achievement will seek occupations other than teaching? Does the lack of stress on performance become transmitted to the students, thereby affecting their own performances?[12]

3. Relations to external environment

   a. Social background of personnel

      (1) Students

      An important research question, and one that has been infrequently investigated, is what sociological and psychological influences account for the variable behavior of children in the same social-status category.[13]

There are many more questions on which research is needed. For example, what impact do the perceived standards of referent groups and referent individuals in and out of the school environment have on the child's motivation to learn? ...How does parental pressure affect student classroom performance?[14]

(2) Teachers

...the precise influence of...background characteristics on the teacher's orientation to his job or his classroom performance remains largely unexplored.[15]

b. Social structure of community

Few studies have been undertaken that attempt to assess the consequences of such variables as the religious, ethnic, and occupational composition of communities on their support for and attitudes toward the public schools.[16]

c. Power structure of community

On what types of issue do economically influential persons or groups, local politicians, religious organizations, and other community groups and individuals attempt to bring pressure to bear on educational decision-makers? To what extent and in what areas are the decisions of key school functionaries influenced by their requests or demands?[17]

d. Economic structure of community

...what impact does the economic organization of a community -- e.g., a single- as opposed to a multiple-industry town -- or its formal political structure have on the type of power relationship under which the schools operate?[18]

e. Community influence on educational practices

Conflict is experienced by teachers in that while they are expected to be experts in their particular fields, nevertheless community groups dictate educational practices...

Why should this plight beset the educators? Is it because society's members themselves have strong personal convictions about how children learn, based on their experiences as parents; or that the scientific basis of educational theory is negligible, at least in the eyes of the parents, so that one man's opinion equals another's? Or is it because the proof of superiority of one method over another is too difficult to demonstrate to the public, unlike medicine where the patient improves or declines? Or, finally, is it that the public distrusts the educators, feeling that new aims are being smuggled in under the guise of professional methods, so that the public recourse is to prescribe the methods themselves?[19]

f. School personnel as members of the community

(1) Students

This topic is included to round out the picture although no one seems to have studied it. One's own observations will readily indicate that the status of students is associated with certain kinds of responses of community members.[20]

(2) Teachers

Under what conditions, ...do institutions need to control the outside behavior of their members? With respect to education, the earlier extensive control probably was predicated on the belief that the teacher must show all the virtues, partly to convince the public he accepted them, partly to be a model to the student. What, then, does a declining control mean? Is it a less strong attachment by the public to the traditional values, or does it represent acceptance of a new theory of learning, in which the child's imitation or identification is a minor matter, hence, the teacher's model unimportant?[21]

4. The school system

a. Formal control structure

(1) The school board

(a) Social composition

What do differences in social status among members of boards of education mean in terms of the decision boards make? For example: Do doctors vote the same as lawyers? Do representatives of labor have opinions on educational issues which differ from representatives of the managerial class?[22]

What factors differentiate those board members who tend to give primacy to localistic as opposed to professional values? What distinguishes those orientation in voting on key educational matters is the welfare of the entire community from those who are concerned primarily with a particular segment of it? What are the effects of varying orientations of school-board members on the "quality" of the educational program, on staff-turnover rates, and on the relationships between the school and the community?...We know little about the influence of such variables as religious and ethnic affiliation, occupation, income, and associational membership on the educational values and voting behavior of school-board members.[23]

(b) Recruitment

Why do citizens seek or accept appointment to boards of education?[24]

(c) Decision-making

How do school boards reach decisions?[25]

(d) Criteria of effectiveness

What are the criteria by which the effectiveness of a board of education may be judged?[26]

(e) Relations with administrator

...although its functionaries are primarily professionals, the formal control of the system is in the hands of laymen. What actual patterns of relationship emerge between a "professional executive" and a set of laymen bosses? Under what conditions does one or the other tend to take hegemony in the relationship? What patterns of division of labor emerge when there is a disjunction between technical skill and formal authority in a social relationship?[27]

Do boards legislate policy and superintendents administer policy, or is this an outmoded educational myth?[28]

(2) School administrators

(a) Decision-making

Should the school administrator use the same process in making decisions about the community as he does about curriculum? Should the administrator make decisions or see that they are made? Here again is a vital area where much knowledge is needed.[29]

(b) Relations with teachers

Does the pattern of relationships that the administrator of a school establishes tend to "spill over" into the classroom? Does the degree to which administrators take the teacher's views into account in their decision-making affect the degree to which the teacher takes students' views into account in his decision-making in the classroom? Does the extent to which administrators supervise teachers affect the manner in which teachers and students relate to each other?[30]

b. Roles of educators in the school system

(1) Role orientations

...the importance of investigating differential role orientation of professional educators. A school superintendent, for example, may give greater primacy to the professional or to the executive-officer aspect of his position. He may operate on the basis of an internal or an external orientation ot his job...[31]

(2) Identification of roles

Another research area notable by its absence, both for educators and for students...is that of the process of identification with one's role in the educational institution... Very much needed are...studies of the way in which the educator, as teacher or administrator in elementary and secondary schools, or as professor at higher educational levels, acquires knowledge of the roles he is to play and incorporates the necessary skills, motives, and ideology as part of his own personality.[32]

(3) Role conflict

The fact that (Gross' and Seeman's) studies show the superintendent's role prescriptions to involve much conflict raises some interesting further points. It suggests either that roles in society normally have what sociologists would describe as a lot of conflict and that they underestimate the degree to which this is a natural state of affairs, or that the superintendent's role is a special type of instance. In either case it leads to further questions such as how conflict is resolved, or why so much conflict exists, or whether the sociologist's analysis of conflict somehow overemphasizes what is actually experienced within the role.[33]

...we have little information about the actual expectations students hold for teachers or those that teachers hold for students and for incumbents of their own positions. It is common to view the teacher's role and the student's role as "givens" in the analysis of educational systems, implying that there is a high degree of consensus among teachers and students, as well as among parents and administrators, about how teachers and students should behave.[34]

c. Roles of students

To our knowledge no one has systematically sampled educators' opinions regarding the desirability of a number of characteristics of the student's role, for example, docility, obedience, level of aspiration, spontaneity, responsibility; nor how these should vary by age, sex, intelligence, and other attributes of the student.[35]

d. Recruitment of educators by school system

To what extent and under what conditions are "unprofessional" criteria employed in the selection of school administrators and other educational personnel?[36]

e. Allocation of personnel

(1) Students

The natural or experimental variations in the normal pattern of advancement for students have been few in number, and have attracted little research attention. The experimental project of the Fund for the Advancement of Education, moving able students on to college before termination of high school, has been evaluated and described in a recent work. The results show that the advanced students did as well in college work as comparable regularly enrolled college students did. However, the data are not adequate to answer some of the central questions one would want to raise about the program; for example, in what ways do students involved differ as a result of this novel educational career pattern from equivalent students who were not advanced.

In many educational systems children may skip grades or be held back a year...What are the major consequences of such variations, both for the individual, and for those with whom he is associated in school or work, for example, upon one's feelings of self-worth, his attitudes toward high achievement, or his isolation from others?[37]

(2) Teachers

We need much more information on where to place people with varying abilities and skills. Investigations of this sort define the human tasks; the kinds and number of men that must be recruited; the types and amounts of training they must be given; the standards of performance that must be met; the differentiation of careers that must be offered; and the criteria for the promotions, separation, and reassignments of

> men that must be effected...The basic research needed here is that which will establish generalizations on the basis of which the administrator would know which of several teachers would bring about the maximum education gain on the part of a specific class of students.[38]

f. Peer group sub-cultures throughout the school

(1) Students

> ...no comparative study yet exists of the effect upon students of attending a same-sex as opposed to a mixed-sex school or college. It would seem that two boys, one spending fifteen years of his school life with only his own sex, the other attending coeducational schools for the same period, would differ in significant ways upon graduation. At least it seems a hypothesis worthy of test.[39]

(2) Students and teachers

> What strains and tensions result from the clash of the youth and adult cultures in the schools? What types of personality structure thrive and sour in this kind of social milieu?[40]

g. Influence of certain features of the total institution

(1) On socialization of students

> A primary task...is the systematic analysis of the differences in social structure between the elementary and secondary school and the impact of these differences on the process of socialization...A theoretical framework such as structural-functional analysis leads to an examination of the largely neglected question: What are the unintended consequences of the present "rational" organizational structure of the schools for the socialization experiences of the child. Another interesting question centers on the socialization consequences of the differential sex composition of the professional staff of the schools.[41]

(2) On other features of institution

> We need research in school size so that we can answer such a question as: What happens to the quality of education in a school as the size of the pupil population increases, say from 700 to 800? (This, of course, leads us to ask what school quality is.) Is the relationship between quality and size a straight-line one, direct, or inverse?[42]

5. The classroom as a social system

We have only limited knowledge of the social and cultural forces within and outside the classroom that affect classroom interaction and learning.[43]

a. Consequences of various student groupings

> Although educators argue about the merits of various bases of grouping, only a few empirical studies have attempted to determine the differential learning or social consequences of variant criteria of grouping children in the classroom.[44]

> ...what might be the effects upon students' attitudes toward competition, toward intellectual endeavor, and toward democratic values of being members of a school which segregates students into classes differentiated by intellectual ability, in contrast to establishing classes so that each includes a wide variation in intelligence and other types of abilities.[45]

b. Consequences of sub-cultures

(1) Students' sub-culture

> What impact does the clique membership of the child have on his motivation to learn and his attitudes toward different subject-matter areas and teachers? Under what conditions does the informal organizational structure of the classroom tend to facilitate or block the teacher's behavior? How does it affect the types of discipline problem that occurs in the classroom?[46]

(2) Teachers' sub-culture

> ...the effect of a teacher's relations with his colleagues upon his classroom performance has apparently not been studied.[47]

c. Role prescriptions

(1) Students' role prescriptions

> Sociological data applying to role prescriptions in the classroom are almost nonexistent. We know very little that is systematic of what educators believe and virtually nothing of what the students and the public believe the student classroom role should be....
>
> As illustration, consider the familiar difference in the expectations that the student should strive to achieve excellence in terms of absolute standards versus the prescriptions that he work up to his personal ability level. How do educators, students, and parents stand on this issue? To what end is the latter prescription directed, that of inner

security as contrasted with external achievement? Is the latter prescription supplanting the former; and, if so, with what consequences a generation hence for the traditional mobility and high achievement orientation of American culture?

Consider also the differences in expectations that a student be permitted in a classroom to express his personal and idiosyncratic desires, to act out, as they say, his inner needs in contrast with the demand that he practice self-discipline and control in relation to social values. Does the former represent a psychiatric approach to human behavior supplanting the Puritan conception? If so, with what consequences for the school system immediately, and the social order later after a generation of children have spend their formative years in this permissive environment?[48]

(2) Teachers' role prescriptions

Research on small groups has shown that groups tend to develop at least two "leaders," one being instrumental or task oriented, the other being expressive or concerned with the feelings or social-emotional concerns of group members....One may thus ask how the teacher handles these two demands in his solitary position as a group leader.[49]

d. Role performance

(1) Students' role performance

Work on actual student role performance also has lagged. Knowledge of how students behave in the classroom consists almost wholly of individual psychological matters such as length of attention span, the differences in academic performance of children with different intelligence, the activity levels of boys and girls, and the like. Almost no one has reported on controlled observational studies of what goes on in an educational system between the student(s) and the faculty.[50]

What are the relations of role differentiation, phases in group task performance, distribution of participation, variations in types of interactive behavior, and distribution of communication channels to antecedent conditions such as group size, age of members, heterogeneity of sex and intelligence, on the one hand, and to subsequent effects such as degree of learning, on the other?[51]

(2) Teachers' role performance

(a) Socialization of students

...even though there is a vast body of research on the relation of teacher characteristics to effectiveness

> in teaching, the reviews of research show no consistent relation between any characteristics, including intelligence, and such teaching effectiveness....
>
> Perhaps the effects of the teacher's personality have been looked for in the wrong place; perhaps it is not with respect to the student's academic learning that such effects occur, but rather with respect to other outcomes of the educational process, namely, the kind of values the student learns, his feelings about himself and other persons, his attitudes toward further education, and many other matters.[52]

> ...Of equal likelihhod, and indeed, as a major proposition from sociological theory, is the possibility that the influence of a teacher's characteristics upon his effectiveness as an educator is contingent on characteristics of the students....This is not...a novel observation, but somehow it seems to have escaped attention as a critical research problem.[53]

> ...one can find so very little research on what kinds of behaviors on the part of teachers make for desirable changes in student behavior.[54]

(b) Social control of students

> What are the varieties of ways in which teachers handle the deviant child? Do historical changes and current variations in procedure reflect different conceptions of the child's nature? How is the mode of control related to the teacher's personality? Where is the study comparing the success of different types of social control in the classroom? What are the effects of one or another mode of control upon classroom morale, the child's self concept, his status in his peer group, and the recurrence of his deviant behavior?[55]

6. Education as a profession

a. Recruitment

> No sociological studies to date have investigated the factors influencing the decision of individuals to enter the field of education....analysis of determinants of differential commitment are unavailable.[56]

b. Training

> ...it is virtually impossible to find sound studies of either what changes can be made to occur in student teachers through professional education or of what effects these changes may bring when these teachers enter service....Consideration of what things

should be taught to prospective teachers and what actions they should take as teachers sometimes seems to proceed as if educational research never existed.[57]

We have little knowledge of the mechanisms involved in a student's acquisition of professional educational skills, values, and attitudes. We have no studies of changes in students' conceptions of the teacher's role during various stages of their training to become teachers or of shifts in role definition before and after they assume their first educational position....How do different types of socialization settings influence student attitudes and orientations toward education.[58]

Knowledge of the impact of the socialization process leading to the principalship and superintendency on role orientations of incumbents of these positions is nonexistent. To what extent are training programs for school executives based on realistic conceptions of the job of a school executive?[59]

c. Composition of teaching force

The impact of...changes in the composition of the teaching force on the educational profession and the public schools also constitutes an unexamined question.[60]

d. Determinants of job satisfaction

What types of social-structural conditions in school systems and the community are associated with the differential job and career satisfaction of educational personnel? What is the influence of reference groups and role orientation on the gratification of incumbents of educational positions? Does job satisfaction vary with one's position in the formal school structure?[61]

e. Career-lines

(1) Orientations and aspirations

Research inquiries are needed to examine factors that differentiate teachers who have different levels of aspiration.... What accounts for different career orientations on the part of...school executives?[62]

(2) Turnover

(a) Determinants

We have little knowledge about the characteristics that differentiate those who drop out of teaching from those who stay on despite the limited vertical mobility available to them.[63]

(b) Comparative rate

> How the rate of turnover compares to other occupational groups is not clear...While it seems unlikely that for other professions as many as one-third of the trained personnel are not actually practicing, further work comparing different occupations in this respect seems advisable.[64]

(3) Influence of formal structure of school on careers

> Little research consideration has been directed to the influence of the formal structure of the school on administrative careers....What impact does the structural arrangement of lay control of (the administrator's) occupational carrer have on his role behavior?[65]

f. Status of the profession

> Although there have been plausible a priori explanation of the relatively backward stage of professionalization of the educational occupation, this problem requires a sophisticated theoretical treatment amenable to empirical examination.[66]

B. Needed Research in Higher Education

1. Career patterns

> The paucity of our knowledge of the career of the educator at these higher levels is the more surprising since the matter lies so close at hand. As someone has said, university faculties know more about anything else one could name than they do about themselves and their natural habitat.[67]

a. Tenure

> ...one might wish to inquire further into the functions of tenure for an institutional system. There seems to be no sociological study of tenure, nor any comparative analysis made of the effects of this type of status on different institutional processes. One might well ask why other major institutions have no need of tenure positions, or whether they in fact do not have their functional equivalent under another name...Or, to take another example, is higher education the only institutional area in which one must move either up or out, so that there are no lifetime assistant professors? Is this necessary to make room to train new men at lower levels for recruitment into the higher echelons, or is its more important function that of eliciting a maximum achievement effort from the younger recruits? How do other institutions deal with this issue?[68]

b. Processes of curricular and vocational choice

The selection of subjects of study by university students, and the choice of careers to which this process immediately or eventually leads, is hardly understood at all. The selection is often capricious, and based on fragmentary or false information.[69]

c. Recruitment to the graduate school

The recruitment of scholars and scientists is obviously a matter of striking importance for scholars and scientists. It would be useful to know whether interest in a particular discipline leads to graduate work in the typical case, or whether interest in graduate work or one of its major areas leads to the selection of a particular discipline, whether choices are rational or random, what standards of acceptability are actually applied, and what recruiting initiatives are undertaken by the disciplines.[70]

d. The non-academic scholar

Despite the centralization of scholarly training in the universities, non-academic scholars play an important role in most of the major disciplines. For example, natural scientists are found in great numbers in industrial employment; social scientists in government agencies; humanists in journalism....There has been very little discussion of the non-academic scholar's relationships with his academic colleagues.[71]

2. The decision-making process

a. The selection of topics for research

The progress of technology, and perhaps the future of civilization, is determined by the nature of the questions asked by scientists and scholars in designing research. What questions can be asked is determined by the existing state of knowledge; what questions are asked depends upon many factors, including available resources, personal preferences, institutional expectations, public opinion, governmental pressures, academic fads and fashions, academic politics, in sum, the whole frame of reference provided by the cultural environment of the scientist.[72]

b. Budgetary decision-making in academic institutions

The key function of the academic administrator is the making of budgetary decision, and all major formulations of policy tend to be centered around choice of this kind....The educational administrator has no such clear-cut criterion (as there are for consumers and industrial managers), and the bases for his decisions have never been worker out either empirically or theoretically.[73]

c. Selection of candidates for academic positions

The selection of student and faculty candidates ranks with budgetary decision-making as a way of choosing institutional goals and determining the direction of institutional development. It includes the selection of students for admission, the award of scholarships and fellowships, election to honorary societies, admission to degree candidacies, and appointments to posts ranging from teaching assistant to professor, dean and president.... what are the principles which govern the choice of one candidate for an academic position over another, when both are well qualified?[74]

3. Intellectual productivity

a. The conditions of scholarly productivity

Pedagogical research has properly concentrated on learning theory, and a great deal is known about the optimum conditions for teaching and learning, but much less about the production of knowledge.[75]

b. Joint effort in the performance of scholarly tasks

Current opinions on this matter vary sharply. There are those who advocate team effort as a creed and a way of life. Others reject as valueless even such traditional practices as collaboration on textbooks.[76]

c. Restriction of learning by peer groups

Peer groups with defensive functions are active all the way from freshman classes to the highest levels of graduate and post-graduate training. It is obvious that such restrictions are dysfunctional for the institution as a whole, but equally obvious that they may serve real needs.[77]

4. Organizational structure

a. The academic department as a work group

Proposed: To study the structure of academic departments with attention to such elements as size, distribution of rank and seniority, strength of leadership, congeniality and participation, role conflicts, and rivalries, formal and informal communication, characteristic points of stress, schisms and conflicts, ideological loyalties, interdepartmental relations, and the choice of instructional and research goals.[78]

b. Hierarchical relations in university administration

Proposed: To study the system of university government with regard to alternative constitutional forms; the specified responsibilities of governing boards, presidents, central staff officers....the degree of control over teaching and research by administrative officials; the distributions of authority...; the usurpation or abuse of administrative authority; the operation of schemes of representation upward and of delegation downward; the recruitment of administrators; conventions of deference and personal influence, and related topics.[79]

c. Patterns of participation in the campus world

Proposed: To study the social worlds of teachers, students, and other members of the campus community, in terms of the frequency and extent of interaction with other persons, the characteristics of these other persons, and the extent to which such aggregates are structures.[80]

d. Interdisciplinary cooperation and interdepartmental conflict

Proposed: An analysis of the matrix of situational and individual factors which incline academic departments to fight with, work with, or isolate themselves from neighboring departments with related interests.[81]

5. Prestige systems

a. Differential prestige of academic departments in a university

Proposed: To account for the differential prestige by which academic departments are arrayed in American institutions of higher learning.[82]

b. Differential prestige of academic departments in a discipline

Proposed: To account for the differential prestige by which the academic departments practicing a given discipline in various institutions of higher learning, are arrayed nationally within the discipline.[83]

6. Characteristics of the undergraduate population

There is a striking need for descriptive information about student population. Without base data on characteristics of student population, it is almost impossible to compare undergraduate colleges, or to design institutional studies focused on student experience. Although this study has little theoretical interest, it ought to have a high priority in any program of institutional research in higher education.[84]

7. Institutional growth

a. The growth of auxiliary services

> One of the most striking features of the contemporary American university is the ramification of auxiliary services until in some cases they overshadow teaching and scholarship, and the employees of the auxiliary services outnumber the faculty. This growth is sometimes attacked as anti-intellectual, sometimes defended as efficient or inevitable, but it has not been carefully studied, and is not very well understood.[85]

b. The assimilation of new disciplines

> For nearly a century, new subjects have been added to the collegiate curriculum at an accelerating pace....The processes by which new disciplines are formed and admitted into the academic community deserve close study.[86]

8. Prediction of college achievement and adjustment

> If the current state of affairs in research on college selection and guidance is disturbing, it is not only because the magnitude of our predictions leaves so much to be desired; it is also because so many are still doing exactly the same kinds of things that were being done two decades ago and even four decades ago -- and getting exactly the same magnitude of results. This is particularly saddening in view of the growing number of studies employing personality tests, biographical inventories, and other so-called non-intellectual predictors....
>
> Non-intellective factors may enter into studies of selection and guidance either as predictors, or as criteria, or as both predictors and criteria. Although nine possible predictor-criterion combinations exist when an intellective-non-intellective typology is employed, only three occur with any substantial frequency. The most popular combination by far is still the classical one in which intellective predictors only are aimed at intellective criteria....The fact that the use of intellective criteria is still the most prevalent in selection and guidance studies, regardless of whether intellective, non-intellective, or both...factors are employed as predictors, may well be considered regrettable....
>
> It may be of some help, for a while at least, to think of kinds of student, of kinds of high-school environment, and of kinds of college environment; to de-emphasize prediction per se and to consider how different kinds of students, seen as personal-social types, made different uses of different college environments. If we set prediction aside a while in favor of some basic theory and research, we may ultimately return to it with greater understanding and flexibility than we now possess.[87]

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Appendix II

The Comparative Study of the Determinants of Educational Opportunity

A. Some Preliminary Considerations

"Educational opportunity" refers to access to formal schooling and its subsequent social rewards. "Determinants" include the full range of variates that govern the discovery, training, disposition, and reward of talent. "Comparative study" refers to the systematic effort to test the generalizability of propositions by observing their stability in a variety of national contexts.

In advanced societies there appears to be a dependable correlation between educational achievement, native capacity, and ability as measured by standardized tests. Thus, for example, Wolfle's[1] extensive American data and Macpherson's[2] ambitious Scottish study both confirm the conclusions of more modest inquiries which show that test intelligence rises with educational level. However, the connection between native capacity and measured ability is ambiguous, the validity and reliability of standardized tests remain open to question, and cognitive skills are not the only legitimate criteria in determining who shall be educated. In any event the low magnitude of many of the relationships suggests that the linkage between talent and opportunity is exceedingly loose.

By now a substantial body of evidence has identified two general classes of restraints on educational opportunity. These may be categorized as (1) deliberate discrimination (specific disqualification through the "normal" impact of the social system on nominal equals, e.g. large families, rural youth, the poor). Although purposive bias particularly offends the liberal ethic it is probable that when discrimination is viewed in international perspective it accounts for a relatively small proportion of the observed variance in opportunity. To illustrate from Floud and Halsey: "The U.S. Census of 1950 showed that over three-quarters of American Negroes, ages fourteen through seventeen, were enrolled in school, whereas this was true for less than a quarter of English fifteen-to-seventeen-year-olds in 1957-1958." [3]

Social class, however, measured, may be the single most potent device of educational selection in many nations. The congruence of numerous studies dealing with this issue is all the more remarkable in view of the unsettled state of theory and research in the area of social stratification. The term "social class" has been variously employed to describe groups or categories sharing in common (1) a recognizable economic function and similar standards of income; (2) similar potentialities for action in the power structure; (3) assignment of a definite rank or status through a process of reciprocal evaluation; and (4) similarities in behavior and outlook which constitute an identifiable sub-culture. Most investigators have apparently assumed that for a satisfactory number of people the various measures of social class cluster around an imaginary measure of central tendency. This rationale has justified the use of a single component such as occupation, income, or residence to represent the entire concept. Educational opportunity tends to be significantly correlated with each of these indicators.

With a consistency that is rare in social investigation numerous American studies agree that (1) socio-economic status is strongly associated with educational opportunity and measured intelligence; (2) the relationship between SES and educational achievement and aspiration persists when ability level is held constant; (3) comparable proportions of the least talented rich and the most talented poor seek higher education and actually enter college; and (4) a sizeable number at all I.Q. and SES levels behave counter to plausible expectation.

Anamolous findings here as elsewhere have exerted pressures to extend the range of inquiry. Much recent work has stressed the role of other structural variables, normative patterns, motivation, and perception as either underlying mechanisms or residual explanations of educational opportunity. For example, a fair amount of evidence suggests that family size is inversely related to educational achievement. Martin Deutsch's studies have persuaded him that many children suffer from a sort of mental static, a trained incapacity to discriminate either sound or thought, because of the sustained verbal barrage by parents and siblings. In England, Nisbet,[4] Mitchell,[5] and others have likewise shown that large families provide a poor environment for the development of language skills. Bernstein's demonstration that among the British linguistic style is class-linked suggests that differential fertility may exert an important influence on educational opportunity quite aside from its contribution to economic deprivation.[6]

A more traditional view holds that educational commitment reflects prevailing subcultural norms. In this connection the Eastern European Jewish dedication to learning is often contrasted to the more secular approach to education that is present in the Negro community. This tendency is presumably fortified by a rational perception of impermeable barriers to mobility and by the ego-deflating process of unsuccessful confrontation with the white middle-class ethos both in school and society.

In a much-cited article Kahl has found some comfort in the fact that strong -- and discontented -- parental models can rescue their children from the cult of helplessness. "Parents who were discontented tended to train their sons from the earliest years of grammar school to take school seriously and use education as the means to climb into the middle class. Only sons who internalized such values were sufficiently motivated to overcome the obstacles which faced the common man boys in school; only they saw a reason for good school performance and college aspirations."[7]

The illustrative materials presented thus far should not convey the impression that extra-mural forces are the sole or even the primary determinants of educational opportunity. The educational system everywhere enjoys some degree of autonomy, is by definition charged with the responsibility of discovering and training talent, and in some measure exerts an independent influence over subsequent disposition and rewards. Accordingly, such matters as educational philosophy and practice, administration, the quality and quantity of professional personnel, and the content of the curriculum deserve and have received increased attention.

The chief educational issue that agitates policy-makers in both industrialized and modernizing societies may be expressed polemically as the conflict between "elite" and "mass" education. At the risk of doing violence to the subtlety of the debate we may distinguish the elitists from their opponents by their adherence to the first term in the following set of polarities: (1) concern for the gifted vs. concern for the average; (2) orientation toward the past vs. orientation toward the future; (3) preference for general education vs. preference for vocational education; (4) perception of education as a vehicle of cultural transmission vs. education as a vehicle of social change; and (5) emphasis on intellectual rigor vs. emphasis on the "whole person." Developing societies have the additional burden of mediating between (1) colonial and indigenous educational models, (2) national and tribal loyalties, and (3) monolinguistic and polylinguistic instruction.

Few proponents of mass or elite education hold all of the positions here attributed to them and the major terms of their respective doctrines have shifting meanings in differing contexts. Nevertheless, the Soviet insistence on technical education, India's commitment to "basic education," Mexico's investment in rural education, high entrance requirements at the University of Ghana, the exquisite gradations of "tracking" in American suburbia are all comprehensible as points on the mass-elite continuum. All such policies whether conceived as moral imperatives or instrumental means divert resources from alternative uses, encourage the emergence or suppression of particular kinds of talent, affect the shape and height of the stratification profile and reward some people at the expense of others. Decision-making within the educational sector may thus be crucial in determining the direction and magnitude of educational opportunity.

Information on the effects of various allocative processes such as "streaming" and examination procedures is not extensive but we are not wholly without guidance. Ideally, estimates of "survivor" and "casualty" rates should be computed for an original cohort of persons in many nations as they arrived at strategic check-points (e.g. entrance into primary school, entrance into a secondary school or a particular type, admission to the bar, etc.) and their characteristics compared. Beyond this intervening experiences should be charted and data collected on the psychological costs entailed in the hazards of passage. Data of this sort exist nowhere in sufficient abundance but the generally conservative Newsom report gives some indication of the scope of the problem.[8]

At present some 60 per cent of British children are directed to secondary modern schools, 17 per cent attend grammar schools, three per cent technical schools, four per cent comprehensive schools, and six per cent public and independent schools. According to A.W. Rowe, the perceptive headmaster of the David Hill Comprehensive School in Hull: "The secondary modern pupils feel that they have been rejected and discriminated against, and this feeling begins to take root at five because at this age children attending all but a small minority of state primary schools ...begin to be sorted and prepared (and, even more importantly, not prepared!) for the 11-plus or its equivalent, by means of which they are divided into grammar, technical, and secondary-modern types." According to Rowe this process is "so profoundly humiliating that a large proportion of them carry away from it an ingrained sense of personal failure, crippling to the individual and dangerous to society."[9]

The 11-plus is merely the best publicized and perhaps the most arbitrary of the existing examination systems but surely the SAT in the United States, the fivepoint scale in the Soviet Union, and the Cambridge School Certificate in various African nations perform much the same function. Since predictions on talent will improve the longer final screening is delayed, there are few educational issues of greater importance than the form and timing of the mechanisms that open or close the gates of various types of learning.

Processes of assortative schooling are apparently reinforced by the numbers, quality, and distribution of teachers. "Teacher shortage" is an expression of an unsatisfactory ratio between available qualified personnel and "educational needs." There is, of necessity, a large arbitrary element in the determination of educational needs, and there is no consensus as to the precise scope of the problem and even more basically as to how they should be measured. Nevertheless, the crisis in quality and quantity of teaching appears to be world-wide. The case of Nigeria reflects the situation in many developing areas. According to Reginald Bunting: "Although the school population has risen astronomically in recent years -- from 970,800 to 2,840,014 in primary schools in a decade -- the teacher population is not keeping pace with the student growth. Over 70 per cent of Nigeria's teachers are untrained and lacking in certificates...There are 319 small training colleges scattered throughout Nigeria, with an enrollment of some 27,000 students. But these training centers themselves suffer from a very severe shortage of qualified staff."[10] He adds that "Since nearly three-quarters of the primary teachers are inadequate in English themselves, it is hardly surprising that their pupils are at a serious disadvantage on this score. Thousands of very able Nigerian children are barred from advanced education because of their insufficient knowledge of English."[11]

Teacher shortage is also characteristic of industrial societies. Moreover, experience suggests and research confirms that the most able members of the professions tend to be unequally distributed in the school system. In every large American city the usual finding is that children in depressed neighborhoods are taught by a disproportionately large number of substitutes and persons that are not fully qualified. The applications for transfer from low-income institutions are typically high as teachers oriented to middle-class life styles and values seek refuge in the affluent suburbs.

The Newsom Report pays eloquent tribute to the dedicated professionals who man such institutions in England but notes that the teacher attrition in British slum schools is twice as high as the national average. The result is that gifted children get "substantially more than their share" of outstanding teachers.[12]

There findings remind us how far we are from the ideal of quality and equality in education. Much of the American discussion of this issue has been irresponsible. The partisans of the new austerity and the defenders of the status quo have engaged in a "Great Debate" that has frequently obscured the central issue. The overwhelming preoccupation of an Admiral Rickover with gifted children has debased the concept of equality and the seeming indifference of some educationists to intellectual performance has violated the principle of quality. Whether the conflicting claims of these desiderata can be reconciled is in the first instance a matter of moral commitment. Sexton refers to equal educational opportunity as the "greatest of all American dreams"[13] and few would be moved to strenuous dissent. But among those who wish to translate dream into policy there is considerably less than consensus on the consequences and organization of virtuous intent.

Anderson well summarizes the dilemma of reconciling the demands of equity and economic development. "A 'multiplier' process operates in diffusing attitudes and practices favorable to economic development. Schooling plays a key role in this process. The clusters of families who have had longer contact with Westerners, Western schooling, and Western ideas will continue to have a large lead over other families. From these favored families come key business people, key civil servants, and manipulators of power -- though the same processes steadily drew new members into their midst. For this among other reasons, the multiplier process works most vigorously in the ecological centers.

"Policy-makers have to make difficult decisions that will encourage or inhibit this multiplier process. In the name of justice, pleas will be made to raise the backward sections to the same level, to life depressed strata, to spread welfare benefits. The problem is to design policies that conform to contemporary ideals -- while simultaneously both continuing to encourage the centers and strata evincing progressive educational aspirations, and stimulating the diffusion of these aspirations and practices."[14]

The difficulties of choice are further illustrated by efforts to expand educational opportunity through foreign education. The results of such sojourns have sometimes been accompanied by unintended and unwelcome consequences. Data collected by John and Ruth Hill Useem[15] on 110 students who returned to Bombay State after attendance in Western universities is instructive.

It may be taken as axiomatic that the Indian student anticipates that an education in a Western university will in some way reward him in India. One anticipated dividend is the enhancement of occupational career. At home again in India, the "foreign-returned" are confronted with two overriding problems of occupational adjustment: obtaining employment at status and income levels commensurate with their training and expectations, and adapting their foreign training and Western-acquired attitudes to concrete job situations.

According to the Useems approximately "13 per cent of the administrative ranks in government, 11 per cent of the academic positions in colleges and universities, and 4 per cent of the managerial posts in Indian-owned private enterprises are occupied by persons with foreign training."[16] The lower representation in private industry is striking. The Useems note further that fewer than one-tenth of the returned students ever secure full-time employment in an area for which they have been specifically trained. Those students who lack influence and must rely on their independent qualifications wait, on the average, for nearly a year before they are able to secure permanent jobs. Some American-educated students feel that one such "influence" is the loyalty to the old school tie invoked by British-trained members of administrative and academic selection committees.

Once he does obtain employment, the foreign-returned student is often disappointed with his plane of living. He is rather more likely to fall somewhere in the middle stratum of the middle class than he is to be paid the fabulous salary that may have beguiled his fantasies while he was still in the West. Initially, and sometimes permanently, the American-trained student finds it difficult to adapt the "unreal" features of his education to practical imperatives of his specific job situation. The process, which is always difficult, is aggravated for the Indian student because skills and attitudes learned under conditions of Western abundance are frequently inapplicable to the Indian economy. In the special case of the teacher there is the additional psychological hardship of becoming accustomed to the highly standardized and centralized character of the Indian educational system after observing the degree of administrative autonomy and individual latitude enjoyed by his American counterpart. Similar conditions in a number of African nations have created a large disaffected intellegentsia with a considerable potential for political mischief.

Any serious effort to meet such problems will of course require adroit planning and an effective administrative mechanism. Coordination must be reconciled with flexibility, stability with change, and hierarchy with morale. These are classic problems in administrative theory but they have seldom been studied systematically in a comparative educational context. Thus, the relative merits of centralized authority over education as in France and local control as in the United States have ordinarily been adduced from more comprehensive orientations.

The American case rests on the assumption that as the decision-making process and financial control are entrusted to progressively larger units there occurs a corresponding decline in flexibility and concern for local needs. It follows that educational programs should be both financed and administered at the "grass roots" level by people "who know the situation intimately" -- by officials of counties, cities, and other smaller civil jurisdictions. An opposing view contends that educational conditions should, within fairly narrow limits, be uniform throughout a nation. The fortuitous circumstances of social origin or locale should neither confer rewards or inflict penalties. Major reliance on local administration and financing restricts rational planning and perpetuates existing inequities. Still another view advocates the establishment of mixed systems. Comparative analysis could remove some of the amgibuity surrounding the centralization vs. diffusion issue by describing various types of administrative control and specifying their actual consequences.

The study of bureaucracy has suffered similar neglect despite the availability of fairly well-developed models in the form of Weberian ideal types and its variants. A distillation of current writings attributes the following features to bureaucratic organization:

(1) The organization is assumed to have a sort of disembodied life of its own whose "needs" and "rights" may be at variance from the aspirations of the individuals who compose it. When a conflict of interest occurs, the individual is expected to subordinate his interests to those of the total collectivity.

(2) Ideally, relationships within the organization are between positions, not individuals. The aim of administrative organization is to depersonalize its functionaries, thus minimizing the effect of individual eccentricity, caprice, and variation. Hence the existence of extensive job descriptions, visible symbols of rank, etc.

(3) Further depersonalization is achieved by formalizing the criteria of advancement on the basis of "universalistic" standards; i.e. they are unaffected by artificial distinctions of race, religion, and class origin. It is in this limited sense only that bureaucracies are egalitarian.

(4) Not all the functions performed by the individuals in the organization are of equal importance. Some positions are assigned greater responsibility in executing the essential tasks of the organization. Individuals who hold these positions are assumed to possess an initially greater native capacity, more highly developed skills, and have usually received longer and more specialized training. These individuals are rewarded by comparatively higher incomes, status differentiations, and power in a clearly designated hierarchy.

Ideal-typically leadership in bureaucratic organizations is exercised by "authoritarian" or "democratic" principles. The authoritarian mode includes the following features: (1) adoption and implementation of policy without consulting subordinates or their representatives; (2) insistence on the recognition of the stratification system by formalized symbols of deference; (3) delimitation of functions and assignments in terms of great specificity and little encouragement for the exercise of initiative. The democratic mode includes the following features: (1) adoption and implementation of administrative policy after extensive consultation at all levels;

(2) minimum insistence on symbols of deference; (3) fluidity of functions and appreciation of private initiative.

It is important to establish in what fashion concrete educational bureaucracies deviate from the analytical model, in what ways form dictates function, to what extent nurturance of the organization takes precedence over the execution of its tasks -- short, whether or not existing structures are adequate to the task of expanding and equalizing educational opportunity.

B. A Categorical Scheme for Data Collection

Perhaps enough has been said to suggest the framework of a common scheme of analysis of the determinants of educational opportunity in all of the nations under scrutiny. Educational opportunity may be defined for our purposes as access to formal schooling of an appropriate (1) level, (2) type, and (3) quality and to subsequent social rewards including (1) work, (2) possessions, (3) power, (4) prestige, and (5) intrinsic gains and amenities. Determinants, conditions that foster or inhibit opportunity, may be sought at three interrelated levels: (1) extra-educational, (2) educational, and (3) personal. Despite a specialized vocabulary in use among various disciplines the basic elements that comprise each level are reducible to (1) resources, (2) structures, and (3) values. Thus, for example, the gross national product, the student-teacher ratio, and the I.Q. may be conceived as "resources."

The advantage of studying opportunity with a 3 x 3 matrix is that rational choice among competing action alternatives would be greatly simplified if it were reasonably certain that a given sector, say allocation of resources in the educational system, accounted for most of the observed variance in opportunity. The resultant agenda of priorities could be modified by the consideration that not all cells in the matrix are equally malleable or responsive to change.

C. The Selection of Standards for Comparative Analysis

As the accompanying schematic indicates, for any given nation educational opportunity and its determinants may each be compared to any or all of the following standards: (1) ideal, (a) perfect, (b) externally defined, (c) defined by the observer, (d) defined by the observed; (2) time, the same nation at different points in its history; and (3) space, the nation under scrutiny compared to other nations.

The ultimate purpose of comparative analysis is to identify relatively constant conjunctions of determinants and patterns of opportunity. This involves the systematic search for differences as well as similarities. In this connection it would be well to remember the elementary caveat that an identity of form may not signify an identity of function. Elections are held both in the United States and in the Soviet Union but the ballot box may symbolize either the defeat or the triumph of the democratic process.

THE DETERMINANTS OF EDUCATIONAL OPPORTUNITY

	RESOURCES	STRUCTURES	VALUES
EXTRA-EDUCATIONAL	Relevant Aspects of A. Non-Human Resources 1. Natural Resources 2. Relative Allocation of Economic Resources to Production, Investment, Consumption 3. Allocation to Education as Proportion of Investments 4. Allocation to Education as Proportion of Consumer Allocations B. Human Resources 1. Literacy Rate 2. Levels of Educational Attainment 3. Persons in High-Level Occupations	Relevant Aspects of 1. Political Organization 2. Family System 3. Religious System	Relevant Aspects of Extent of Commitment to: 1. Activity 2. Work 3. Efficiency 4. Equality 5. Progress 6. Material Comfort 7. Freedom 8. Nationalism 9. Science
EDUCATIONAL	A. Non-Human Resources 1. Educational Plant a. Physical Facilities b. Instructional Materials (Library, Textbooks, etc.) } 1. number 2. level 3. type 4. location 5. quality 6. use 7. value 2. Current Expenditures a. Physical Facilities b. Instructional Materials } 1. per unit population 2. per pupil 3. per instructional unit B. Human Resources 1. Administration 2. Professional Personnel 3. Students } 1. Number 2. Quality 3. Composition 4. Distribution 5. Morale	A. Role Relationships 1. Educational System - Extra-Ednl. System 2. Administrators - Professionals 3. Administrators - Students 4. Professionals - Students } 1. Hierarchical - Egalitarian 2. Traditional - Rational 3. Flexible - Rigid 4. Centralized - Diffuse 5. Authoritarian - Democratic B. Instructional System 1. Curriculum Academic . . . Vocational 2. Quality High . . . Low 3. Instructional Emphasis Passive . . . Active 4. Methods of Control Punitive . . . Permissive	Educational Ideology Elite -. Mass 1. gifted . . . average 2. past . . . . future 3. general . . vocational 4. cultural transmission . . . social change 5. rigor . . . . whole person

THE DETERMINANTS OF EDUCATIONAL OPPORTUNITY
(continued)

	RESOURCES	STRUCTURES	VALUES
PERSONAL	A. Cognitive Skills 1. Grades 2. Standardized Tests B. Group Characteristics 1. Age 2. Sex 3. Race 4. Ethnicity 5. Occupation 6. Urban Rural 7. Religion	Integration of Personality 1. Maturity 2. Ambivalence 3. Neuroses	A. Internalization of Social Values B. Commitment to Learning Process C. Commitment to Achievement Ethic and Deferred Gratification Pattern

THE DIMENSIONS OF EDUCATIONAL OPPORTUNITY

System-Level	Access to Formal Schooling		Access to Social Rewards
Personal	Levels of Schooling Primary Secondary Higher Type of Schooling Academic Vocational Professional	Quality 1. Teachers 2. Curriculum 3. Methods of Instruction 4. Physical Environment 5. Class Atmosphere 6. Mobility a. Examinations b. Tracking	Work Possessions Power Prestige Intrinsic Gains and Amenities

THE COMPARATIVE ANALYSIS OF THE DETERMINANTS OF EDUCATIONAL OPPORTUNITY

----------EREWHON----------

	Actual	Ideal				Time			Space			
		Perfect	External	Observer	Observed	193x	194x	195x	Graustark	Ruritania	Shangri-La	Walden
Educational Opportunity												
Determinants												

The nations represented in the study should collectively exhibit a wide range in the variables under investigation. Such features as (1) degree of modernization, (2) political form and process, and (3) nature of the educational system are good summary indicators of a whole complex of associated characteristics. The criteria for selecting any particular nation include: (1) the availability of data, (2) intrinsic importance, e.g. the USSR, (3) capacity to represent adequately a whole class of nations, e.g. Nigeria, and (4) considerable internal variation, e.g. the United States.

Ideally, a specific national or educational characteristic could be located at a point on an orderly and exhaustive continuum. Thus the Soviet Union, the United States, England, Holland, and Spain represent the total spectrum of state-church control of education. In view of practical difficulties we shall usually be obliged to settle for lesser levels of intellectual tidiness.

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